151-77

SCI

QB
1
A88 v.68/74
1986/90
INDEX
AUTHORS

U.I.C.
FEB 20 1991
LIBRARY

THE ASTROPHYSICAL JOURNAL 1986-1990 INDEX

BY AUTHORS AND BY SUBJECTS

PARTS 1 AND 2

VOLUMES 300–365

(1986 January 1 to 1990 December 20)

SUPPLEMENT SERIES

VOLUMES 60–74

(1986 January to 1990 December)

PUBLISHED BY THE UNIVERSITY OF CHICAGO PRESS FOR
THE AMERICAN ASTRONOMICAL SOCIETY

THE ASTROPHYSICAL JOURNAL

1986–1990 INDEX

BY AUTHORS AND BY SUBJECTS

AUTHOR INDEX

PARTS 1 AND 2

VOLUMES 300–365

(1986 January 1 to 1990 December 20)

SUPPLEMENT SERIES

VOLUMES 60–74

(1986 January to 1990 December)

PUBLISHED BY THE UNIVERSITY OF CHICAGO PRESS FOR
THE AMERICAN ASTRONOMICAL SOCIETY

THE
ASTROPHYSICAL JOURNAL

Published by The University of Chicago Press for
THE AMERICAN ASTRONOMICAL SOCIETY

MANAGING EDITOR
HELMUT A. ABT 1986–1990

ASSOCIATE MANAGING EDITOR
JOHN S. GALLAGHER III 1986–1990

ASSOCIATE EDITORS
YERVANT TERZIAN 1989–1990 VIRGINIA TRIMBLE 1989–1990

LETTERS EDITOR
A. DALGARNO 1986–1990

DEPUTY LETTERS EDITOR
EUGENE H. AVRETT 1987–1990

ASSOCIATE LETTERS EDITORS

EUGENE H. AVRETT	1986–1987	DAVID J. HELFAND	1987–1990
LENNOX L. COWIE	1986–1987	NICHOLAS Z. SCOVILLE	1987–1990
SANDRA M. FABER	1986–1987	STUART L. SHAPIRO	1987–1990
ROBERT M. HJELLMING	1986-1987		

AAS PUBLICATIONS BOARD
Appointed by the Council of The American Astronomical Society

PATRICK PALMER, *Chairperson* 1985–1986
JOHN P. HUCHRA, *Chairperson* 1986–1988
JULIE H. LUTZ, *Chairperson* 1988–1989
CATHERINE PILACHOWSKI, *Chairperson* 1989–1992

PATRICK PALMER	1983–1986	JEREMY R. MOULD	1988–1991
TOBIAS C. OWEN	1984–1987	LEIF J. ROBINSON	1988–1991
SIDNEY VAN DEN BERGH	1984–1987	CATHERINE PILACHOWSKI	1989–1992
GILLIAN R. KNAPP	1985–1988	DAVID W. LATHAM	1989–1990
JOHN P. HUCHRA	1986–1989	FRANÇOIS SCHWEIZER	1990–1993
JULIE H. LUTZ	1986–1989	JACQUELINE H. VAN GORKOM	1990–1993
ROGER A. BELL	1987–1990		

Compiled by the staff of *The Astrophysical Journal*
Processed by computer programs developed by Evan Owens
Typeset using PC TEX
Printed by Capital City Press, Inc., Montpelier, Vermont

©1990 by The American Astronomical Society. All rights reserved.

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48–1984. ♾

AUTHOR INDEX

AANNESTAD, PER A. The Detection of Photospheric Calcium in a DBA White Dwarf. *Scott J. Kenyon, Harry L. Shipman, Edward M. Sion, & Per A. Aannestad.* 328, L65, 74-F4 (1988)

Hydrogen and Calcium in DB White Dwarfs: A Case for Interstellar Accretion. *Edward M. Sion, Per A. Aannestad, & Scott J. Kenyon.* 330, L55, 96-G7 (1988)

Effects of Silicate-Graphite Dust in H II Regions. *Per A. Aannestad.* 338, 162, 35-A9 (1989)

An Atlas of Optical Spectra of DZ White Dwarfs and Related Objects. *Edward M. Sion, Scott J. Kenyon, & Per A. Aannestad.* 72, 707, 12-E5 (1990)

AARONSON, M. A Distance Scale from the Infrared Magnitude/H I Velocity-Width Relation. V. Distance Moduli to 10 Galaxy Clusters, and Positive Detection of Bulk Supercluster Motion toward the Microwave Anisotropy. *M. Aaronson, G. Bothun, J. Mould, J. Huchra, R. A. Schommer, & M. E. Cornell.* 302, 536, 36-D4 (1986)

Isophotal Diameters of Cluster Spirals. *M. E. Cornell, M. Aaronson, G. Bothun, & J. Mould.* 64, 507, 24-A5 (1987)

Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)

AARONSON, MARC. On the Nature of the Dwarf Carbon Star G77-61. *D. S. P. Dearborn, James Liebert, Marc Aaronson, Conard C. Dahn, Robert Harrington, Jeremy Mould, & Jesse L. Greenstein.* 300, 314, 4-E1 (1986)

Discovery of Cepheids in M101. *Kem H. Cook, Marc Aaronson, & Garth Illingworth.* 301, L45, 27-B6 (1986)

High-Precision Radial Velocities for Faint Giants: Radial Velocities of Extreme Halo Systems and the Mass of the Galaxy. *Edward W. Olszewski, Ruth C. Peterson, & Marc Aaronson.* 302, L45, 40-D8 (1986)

The Distance Scale: Present Status and Future Prospects. *Marc Aaronson & Jeremy Mould.* 303, 1, 41-A7 (1986)

The Formation and Evolution of Carbon Stars. *Jeremy Mould & Marc Aaronson.* 303, 10, 41-B2 (1986)

Carbon and M Stars in Nearby Galaxies: A Preliminary Survey Using a Photometric Technique. *Kem H. Cook, Marc Aaronson, & John Norris.* 305, 634, 75-G1 (1986)

High-Precision Radial Velocities for Faint Giants. I. MMT Echelle Results for Globular Cluster Stars. *Ruth C. Peterson, Edward W. Olszewski, & Marc Aaronson.* 307, 139, 96-E5 (1986)

The Use of the Brightest Blue Supergiants as Distance Indicators—Further Complications; or the Brightest "Stars" Are Not Always Stars. *Roberta M. Humphreys & Marc Aaronson.* 318, L69, 92-C14 (1987)

The Age of the LMC Globular Cluster NGC 1783. *Jeremy Mould, Jerome Kristian, James Nemec, Marc Aaronson, & Joseph Jensen.* 339, 84, 51-A8 (1989)

Southern Milky Way Carbon Stars: New Candidates, *JHK* Photometry, and Radial Velocities. *Marc Aaronson, Victor M. Blanco, Kem H. Cook, & Paul L. Schechter.* 70, 637, 27-D1 (1989)

Velocities of Stars in Remote Galactic Satellites and the Mass of the Galaxy. *Dennis Zaritsky, Edward W. Olszewski, Robert A. Schommer, Ruth C. Peterson, & Marc Aaronson.* 345, 759, 160-B8 (1989)

Northern Milky Way Carbon Stars: New Candidates, *JHK* Photometry, and Radial Velocities. *Marc Aaronson, Victor M. Blanco, Kem H. Cook, Edward W. Olszewski, & Paul L. Schechter.* 73, 841, 29-F1 (1990)

AARSETH, S. J. On the Collapse and Violent Relaxation of Protoglobular Clusters. *S. J. Aarseth, D. N. C. Lin, & J. C. B. Papaloizou.* 324, 288, 4-D2 (1988)

AARSETH, SVERRE J. A Numerical Simulation of the Formation of the Terrestrial Planets. *Myron Lecar & Sverre J. Aarseth.* 305, 564, 73-D6 (1986)

ABAD, ALBERTO. Application of the Fourier Transform for Solving and Improving Spectroscopic Binary Star Orbits. *Alberto Abad & Antonio Elipe.* 302, 764, 39-A11 (1986)

ABADI, MARIO G. A Simple Model for Dissipative Galaxy Formation. *Mario G. Abadi, Diego García Lambas, & Mirta B. Mosconi.* 360, 343, 150-E3 (1990)

ABBOTT, D. C. Non–LTE Model Calculations for SN 1987A and the Extragalactic Distance Scale. *W. Schmutz, D. C. Abbott, R. S. Russell, W.-R. Hamann, & U. Wessolowski.* 355, 255, 90-A12 (1990)

ABBOTT, DAVID C. Radio Emission from Galactic Wolf-Rayet Stars and the Structure of Wolf-Rayet Winds. *David C. Abbott, J. H. Bieging, E. Churchwell, & Ana V. Torres.* 303, 239, 43-F9 (1986)

Photospheres of Hot Stars. II. An Analysis of Zeta Puppis. *Bruce Bohannan, David C. Abbott, Stephen A. Voels, & D. G. Hummer.* 308, 728, 117-A1 (1986)

The Theory of Radiatively Driven Stellar Winds. III. Wind Models with Finite Disk Correction and Rotation. *David B. Friend & David C. Abbott.* 311, 701, 155-D8 (1986)

The Discovery of Nonthermal Radio Emission from Magnetic Bp–Ap Stars. *Stephen A. Drake, David C. Abbott, T. S. Bastian, J. H. Bieging, E. Churchwell, G. Dulk, & Jeffrey L. Linsky.* 322, 902, 149-F10 (1987)

Failure of Continuum Methods for Determining the Effective Temperature of Hot Stars. *D. G. Hummer, David C. Abbott, Stephen A. Voels, & Bruce Bohannan.* 328, 704, 70-G1 (1988)

A Survey of Radio Emission from Galactic OB Stars. *J. H. Bieging, David C. Abbott, & E. B. Churchwell.* 340, 518, 73-F1 (1989)

Photospheres of Hot Stars. III. Luminosity Effects at Spectral Type O9.5. *Stephen A. Voels, Bruce Bohannan, David C. Abbott, & D. G. Hummer.* 340, 1073, 81-F1 (1989)

Atmospheric Models for Luminous Blue Variables. *Claus Leitherer, Werner Schmutz, David C. Abbott, Wolf-Rainer Hamann, & Ulf Wessolowski.* 346, 919, 178-E8 (1989)

Photospheres of Hot Stars. IV. Spectral Type O4. *Bruce Bohannan, Stephen A. Voels, David G. Hummer, & David C. Abbott.* 365, 729, 217-C13 (1990)

ABBOTT, L. F. Causality Constraints on Cosmological Perturbations. *L. F. Abbott & J. Traschen.* 302, 39, 28-D3 (1986)

A General, Gauge-invariant Analysis of the Cosmic Microwave Anisotropy. *L. F. Abbott & R. K. Schaefer.* 308, 546, 114-G8 (1986)

ABBOTT, MARK J. A Radiation-driven Stellar Wind Model with a Line Force Cutoff. *Mark J. Abbott & David B. Friend.* 345, 505, 155-D2 (1989)

ABBOTT, TIMOTHY M. C. V Persei: Bridging the Period Gap. *Allen W. Shafter & Timothy M. C. Abbott.* 339, L75, 66-D6 (1989)

ABDELATIF, T. E. Surface and Body Waves in Magnetic Flux Tubes. *T. E. Abdelatif.* 333, 395, 142-D6 (1988)

ABDELATIF, TOUFIK E. The Interaction of Solar *p*-Modes with a Sunspot. I. Observations. *Toufik E. Abdelatif, Bruce W. Lites, & John H. Thomas.* 311, 1015, 159-A2 (1986)

The Interaction of Solar *p*-Modes with a Sunspot. II. Simple Theoretical Models. *Toufik E. Abdelatif & John H. Thomas.* 320, 884, 119-D11 (1987)

Heating of Coronal Loops by Phase-mixed Shear Alfvén Waves. *Toufik E. Abdelatif.* 322, 494, 143-D1 (1987)

Transmission and Reflection of Compressive Waves at a Nonmagnetic-Magnetic Interface. *Toufik E. Abdelatif & John H. Thomas.* 70, 239, 21-E7 (1989)

ABELL, GEORGE O. A Catalog of Rich Clusters of Galaxies. *George O. Abell, Harold G. Corwin, Jr., & Ronald P. Olowin.* 70, 1, 16-B1 (1989)

ABHYANKAR, K. D. 41 Sextantis A: Prototype of a New Class among Am Stars. *S. Sreedhar Rao, K. D. Abhyankar, & Praveen Nagar.* 365, 336, 210-E7 (1990)

ABIA, C. Oxygen Abundances in Unevolved Metal-poor Stars: Interpretation and Consequences. *C. Abia & R. Rebolo.* 347, 186, 184-D5 (1989)

ABRAHAM, Z. Evolution of 3C 273 at 10.7 GHz. *M. H. Cohen, J. A. Zensus, J. A. Biretta, G. Comoretto, P. Kaufmann, & Z. Abraham.* 315, L89, 49-B11 (1987)

ABRAMOWICZ, M. A. A New Example of the Papaloizou-Pringle Instability. *M. A. Abramowicz, O. M. Blaes, & P. Ghosh.* 323, 629, 161-E10 (1987)

Slim Accretion Disks. *M. A. Abramowicz, B. Czerny, J.-P. Lasota, & E. Szuszkiewicz.* 332, 646, 131-C10 (1988)

ABRAMOWICZ, MAREK A. Constraints for Transonic Black Hole Accretion. *Marek A. Abramowicz & Shoji Kato.* 336, 304, 4-G4 (1989)

Baroclinic Toroidal Figures of Equilibrium. *Peter Amendt, Antonio Lanza, & Marek A. Abramowicz.* 343, 437, 123-D12 (1989)

Standing Shocks in Adiabatic Black Hole Accretion of Rotating Matter. *Marek A. Abramowicz & Sandip K. Chakrabarti.* 350, 281, 28-D10 (1990)

Relativistic Effects in Superluminal Jets and Neutron Star Winds. *Marek A. Abramowicz, George F. R. Ellis, & Antonio Lanza.* 361, 470, 164-A1 (1990)

ABRAMS, MARK C. Highly Excited Rotational States of the Meinel System of OH. *Mark C. Abrams, Sumner P. Davis, M. L. P. Rao, & Rolf Engleman, Jr.* 363, 326, 186-B11 (1990)

ABT, HELMUT A. The Ages and Dimensions of Trapezium Systems. *Helmut A. Abt.* 304, 688, 63-E4 (1986)

Editorial: Reduced Subscription Rates for Libraries in Selected Developing Countries. *Helmut A. Abt.* 306, 1, 81-A6 (1986)

Spectral Classification of Weak-lined Stars Discovered Photometrically. *Helmut A. Abt.* 309, 260, 122-F13 (1986)

Editorial: Publication Times and Volume Indexes. *Helmut A. Abt & A. Dalgarno.* 315, L71, 49-A9 (1987)

Implications for Solar-Type Binary Statistics of the Morbey-Griffin Improved Binary Analysis. *Helmut A. Abt.* 317, 353, 67-F11 (1987)

Duplicity among Stars with Strong Chromospheric Ca II Emission Lines: A Statistical Survey. *Arthur Young, Richard A. Mielbrecht, & Helmut A. Abt.* 317, 787, 74-F1 (1987)

The Binary Frequency of High-Velocity Field Dwarfs as Obtained with CCD Measures. *Helmut A. Abt & Daryl W. Willmarth.* 318, 786, 89-E2 (1987)

Editorial: Subscription Rate Increases. *Helmut A. Abt.* 321, 1, 122-A7 (1987)

Announcement: Availability of a Current Index to *The Astrophysical Journal* and *The Astronomical Journal*. *Helmut A. Abt.* 322, 1073, 151-C11 (1987)

Editorial: Name Change. *Helmut A. Abt & A. Dalgarno.* 328, L1, 66-D4 (1988)

Maximum Separations among Cataloged Binaries. *Helmut A. Abt.* 331, 922, 119-B2 (1988)

Editorial: *The Astrophysical Journal* and *Supplement Series* Rates in 1989. *Helmut A. Abt.* 335, 1, 170-A9 (1988)

Editorial: 1990 Rates and a New Frequency of Publication. *Helmut A. Abt.* 345, 1, 149-A10 (1989)

Editorial: Instrumentation Papers. *Helmut A. Abt.* 346, 1, 166-B1 (1989)

Editorial: Refereed Conference Papers. *Helmut A. Abt.* 354, 1, 74-B1 (1990)

Editorial: Style Changes for Most Astronomical Journals. *Helmut A. Abt.* 357, 1, 111-B1 (1990)

Editorial: Rate Increases. *Helmut A. Abt.* 361, 329, 162-C1 (1990) (Orig. paper in 361, 329, 162-C1 (1990))

The Frequency and Formation Mechanism of B2–B5 Main-Sequence Binaries. *Helmut A. Abt, Ana E. Gomez, & Saul G. Levy.* 74, 551, 38-A1 (1990)

Editorial: Introductory Subscriptions for New Graduates. *Helmut A. Abt.* 363, 1, 182-B1 (1990)

ACHILLEOS, N. Offset Magnetic Dipoles in White Dwarfs. *N. Achilleos & D. T. Wickramasinghe.* 346, 444, 171-E11 (1989)

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

ACHTERMANN, J. M. Discovery of Interstellar Acetylene. *J. H. Lacy, Neal J. Evans II, J. M. Achtermann, D. E. Bruce, J. F. Arens, & J. S. Carr.* 342, L43, 109-D7 (1989)

ACOSTA-PULIDO, JOSÉ A. Accretion Tori and Cones of Ionizing Radiation in Seyfert Galaxies. *José A. Acosta-Pulido, Ismael Pérez-Fournon, Massimo Calvani, & Andrew S. Wilson.* 365, 119, 207-E1 (1990)

ACQUISTA, NICOLO. Wavelengths and Intensities of a Platinum/Neon Hollow Cathode Lamp in the Region 1100–4000 Å. *Joseph Reader, Nicolo Acquista, Craig J. Sansonetti, & Jean E. Sansonetti.* 72, 831, 16-G11 (1990)

ACTON, L. W. Electron Density Diagnostics in the 10–100 Å Interval for a Solar Flare. *W. A. Brown, M. E. Bruner, L. W. Acton, & H. E. Mason.* 301, 981, 26-D10 (1986)

ADACHI, TOMOO. Axion Bremsstrahlung in Dense Stars. II. Phonon Contributions. *Masayuki Nakagawa, Tomoo Adachi, Yasuharu Kohyama, & Naoki Itoh.* 326, 241, 34-G7 (1988)

Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes. *Naoki Itoh, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 339, 354, 54-D5 (1989)

Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes: Erratum. *Itoh Naoki, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 360, 741, 155-C13 (1990) (Orig. paper in 352, 361, 54-D1 (1990))

ADAIR, JOE. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

ADAM, J. Ultraviolet Doubly Excited Fe II Lines in the Laboratory and in the A-Type Star 21 Pegasi. *J. Adam, B. Baschek, S. Johansson, A. E. Nilsson, & T. Brage.* 312, 337, 4-E6 (1987)

ADAMS, D. J. Lunar Occultation of the Galactic Center at 2.2 Microns. *D. J. Adams, E. E. Becklin, R. F. Jameson, A. J. Longmore, Aa. Sandqvist, & E. Valentijn.* 327, L65, 61-C11 (1988)

ADAMS, FRED C. Infrared Spectra of Rotating Protostars. *Fred C. Adams & Frank H. Shu.* 308, 836, 118-B1 (1986)

Spectral Evolution of Young Stellar Objects. *Fred C. Adams, Charles J. Lada, & Frank H. Shu.* 312, 788, 11-E3 (1987)

The Disks of T Tauri Stars with Flat Infrared Spectra. *Fred C. Adams, Charles J. Lada, & Frank H. Shu.* 326, 865, 43-A11 (1988)

Spectral Distortions of the Cosmic Microwave Background. *Fred C. Adams, Katherine Freese, Janna Levin, & Jonathan C. McDowell.* 344, 24, 133-C9 (1989)

Eccentric Gravitational Instabilities in Nearly Keplerian Disks. *Fred C. Adams, Steven P. Ruden, & Frank H. Shu.* 347, 959, 195-D11 (1989)

1.3 Millimeter Continuum Observations of Cold Molecular Cloud Cores. *Christopher K. Walker, Fred C. Adams, & Charles J. Lada.* 349, 515, 21-F7 (1990)

Submillimeter Photometry and Disk Masses of T Tauri Disk Systems. *Fred C. Adams, James P. Emerson, & Gary A. Fuller.* 357, 606, 120-B5 (1990)

SLING Amplification and Eccentric Gravitational Instabilities in Gaseous Disks. *Frank H. Shu, Scott Tremaine, Fred C. Adams, & Steven P. Ruden.* 358, 495, 129-F7 (1990)

Brown Dwarfs as Dark Galactic Halos. *Fred C. Adams & Terry P. Walker.* 359, 57, 134-F9 (1990)

The L-A_V Diagram for Protostars. *Fred C. Adams.* 363, 578, 191-D1 (1990)

ADAMS, JAMES H., JR. Very High Energy Gamma-Ray Spectroscopy. *David Eichler & James H. Adams, Jr.* 317, 551, 70-A1 (1987)

ADAMS, NIGEL G. Ion-Molecule Calculation of the Abundance Ratio of CCD to CCH in Dense Interstellar Clouds. *Eric Herbst, Nigel G. Adams, David Smith, & D. J. DeFrees.* 312, 351, 4-F7 (1987)
On the Synthesis of c-C_3H_2 in Interstellar Clouds. *Nigel G. Adams & David Smith.* 317, L25, 71-B13 (1987)
OH Production in the Dissociative Recombination of H_3O^+, HCO_2^+, and N_2OH^+: Comparison with Theory and Interstellar Implications. *Charles R. Herd, Nigel G. Adams, & David Smith.* 349, 388, 18-F1 (1990)
ADAMS, P. J. Inhomogeneous Cosmology. III. Primordial Gravitational Waves and Dust. *P. J. Adams, R. W. Hellings, & R. L. Zimmerman.* 318, 1, 79-A5 (1987)
ADE, E. I. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)
ADELMAN, GABRIELLE A. Circumstellar Material Associated with GL 490. *Lee G. Mundy & Gabrielle A. Adelman.* 329, 907, 87-A11 (1988)
ADELMAN, SAUL J. On the Signal-to-Noise Ratio in *IUE* High-Dispersion Spectra. *David S. Leckrone & Saul J. Adelman.* 71, 387, 40-B11 (1989)
An Elemental Abundance Analysis of the Superficially Normal A Star Vega. *Saul J. Adelman & Austin F. Gulliver.* 348, 712, 11-C11 (1990)
ADLER, DAVID S. New Detection of CO Emission from Four Spiral Galaxies. *David S. Adler & Harvey S. Liszt.* 339, 836, 62-B1 (1989)
AFAF, M. Singlet Systems of Zirconium Oxide. *M. Afaf.* 314, 415, 32-F8 (1987)
Potential Maximum in the $C^3\Delta_3$ State of ZrO. *M. Afaf.* 324, 1219, 17-A10 (1988)
AGGARWAL, K. M. Level Populations and Line Intensity Ratios for Transitions between Configurations of Carbon-like Ions. *K. M. Aggarwal.* 61, 699, 27-B11 (1986)
Emission-Line Ratios for O III in Gaseous Nebulae and a Comparison between Theory and Observation. *F. P. Kennan & K. M. Aggarwal.* 319, 403, 97-E7 (1987)
Electron Density Diagnostics for Late-Type Stellar Atmospheres. *F. P. Keenan, P. L. Dufton, K. M. Aggarwal, & A. E. Kingston.* 324, 1068, 15-C3 (1988)
Ca XV Line Ratios in Solar Flares. *F. P. Keenan, K. M. Aggarwal, K. A. Berrington, & K. G. Widing.* 327, 473, 52-C1 (1988)
O III Line Ratios in the Sun. *F. P. Keenan & K. M. Aggarwal.* 344, 522, 139-E1 (1989)
The Ratio of Optical to Infrared Emission-Line Strengths in O III as Electron Temperature Diagnostics for Planetary Nebulae. *F. P. Keenan & K. M. Aggarwal.* 350, 262, 28-C1 (1990)
Effective Collision Strengths among Fine-Structure Levels of Ca XV. *K. M. Aggarwal, K. A. Berrington, & F. P. Keenan.* 72, 815, 16-F5 (1990)
AGRAWAL, P. C. X-Ray Spectrum from Gamma Cassiopeiae. *T. Murakami, K. Koyama, H. Inoue, & P. C. Agrawal.* 310, L31, 138-C5 (1986)
AGRINIER, B. A Study of $E > 4$ MeV Gamma Radiation from the Galactic Disk in the Region $-20° < l < 20°$. *J. M. Lavigne, P. Mandrou, M. Niel, B. Agrinier, E. Bonfand, & B. Parlier.* 308, 370, 112-A14 (1986)
Observation of the Vela Pulsar, PSR 0833−45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)
Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)
Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)
AGUILAR, LUIS. On the Evolution of Globular Cluster Systems. I. Present Characteristics and Rate of Destruction in Our Galaxy. *Luis Aguilar, Piet Hut, & Jeremiah P. Ostriker.* 335, 720, 180-E1 (1988)
AGUILAR, LUIS A. The Density Profiles of Tidally Stripped Galaxies. *Luis A. Aguilar & Simon D. M. White.* 307, 97, 96-A9 (1986)
The Structure and Dynamics of Galaxies Formed by Cold Dissipationless Collapse. *Luis A. Aguilar & David Merritt.* 354, 33, 74-D9 (1990)
A'HEARN, MICHAEL F. CO^+ Fluorescence in Comets. *Loris Magnani & Michael F. A'Hearn.* 302, 477, 33-D9 (1986)
The Bare Nucleus of Comet Neujmin 1. *Humberto Campins, Michael F. A'Hearn, & Lucy-Ann McFadden.* 316, 847, 61-D1 (1987)
An Investigation of the Nucleus and Coma of Comet P/Arend-Rigaux. *Robert L. Millis, Michael F. A'Hearn, & Humberto Campins.* 324, 1194, 16-F7 (1988)
Comet P/Encke's Nongravitational Force. *Michael F. A'Hearn & David G. Schleicher.* 331, L47, 114-D10 (1988)
The Fluorescence of Cometary OH. *David G. Schleicher & Michael F. A'Hearn.* 331, 1058, 120-E12 (1988)
The Nucleus of Comet P/Tempel 2. *Michael F. A'Hearn, Humberto Campins, David G. Schleicher, & Robert L. Millis.* 347, 1155, 198-A4 (1989)
AHLEN, S. P. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)
AHMAD, I. A. *IUE* Observations of Accretion Columns in Two Zeta Aurigae–Type Systems. *I. A. Ahmad.* 301, 275, 16-G13 (1986)
The Accretion Wake of 31 Cygni. *I. A. Ahmad.* 338, 1011, 46-D1 (1989)
A Semiempirical Model for the Red Supergiant's Wind in Zeta Aurigae Systems. *N. P. M. Kuin & I. A. Ahmad.* 344, 856, 144-G10 (1989)
AHMAD, IMAD A. The Stellar Wind Velocity Function for Red Supergiants Determined in Eclipsing Binaries. *Imad A. Ahmad & Robert E. Stencel.* 329, 797, 85-F8 (1988)
AI, GUOXIANG. Seventy-Five Hours of Coordinated Videomagnetograph Observations. *Haimin Wang, Harold Zirin, Alan Patterson, Guoxiang Ai, & Hongqi Zhang.* 343, 489, 124-B1 (1989)
AIELLO, S. Far-Infrared Diffuse Emission: Cosecant b Law and Galaxy Counts. *P. de Bernardis, S. Masi, F. Melchiorri, G. Moreno, R. Vannoni, & S. Aiello.* 326, 941, 43-G8 (1988)
AIKAWA, TOSHIKI. Nonlinear Pulsations of Discrete Stellar Models. III. Adiabatic Motions of a Two-Zone Model. *Toshiki Aikawa & Charles A. Whitney.* 328, 187, 64-A10 (1988)
AIME, C. New Observations of Alpha Orionis with a Rotation Shearing Interferometer. *F. Roddier, C. Roddier, R. Petrov, F. Martin, G. Ricort, & C. Aime.* 305, L77, 80-D13 (1986)
AITKEN, D. K. The Far-Infrared Polarization of the Orion Nebula. *D. P. Gonatas, G. A. Engargiola, R. H. Hildebrand, S. R. Platt, X. D. Wu, J. A. Davidson, G. Novak, D. K. Aitken, & C. Smith.* 357, 132, 112-F4 (1990)
AIZU, K. VLA Observations of the Radio Galaxy Hydra A (3C 218). *G. B. Taylor, R. A. Perley, M. Inoue, T. Kato, H. Tabara, & K. Aizu.* 360, 41, 145-E5 (1990)
AJELLO, J. M. Electron Impact Excitation of H_2: Rydberg Band Systems and the Benchmark Dissociative Cross Section of H Lyman-Alpha. *D. E. Shemansky, J. M. Ajello, & D. T. Hall.* 315, 408, 44-C14 (1987) (Orig. paper in 296, 765, 98-D6 (1985))
Solar Cycle Study of Interplanetrary Lyman-Alpha Variations: *Pioneer Venus* Orbiter Sky Background Results. *J. M. Ajello, A. I. Stewart, G. E. Thomas, & A. Graps.* 317, 964, 76-F5 (1987)
AJHAR, EDWARD A. Deep Optical and Radio Searches for a Quiescent Counterpart to the Optical Transient Source OTS 1809+31. *George R. Ricker, Patrick C. Mock, Edward A. Ajhar, & Roland K. Vanderspek.* 338, 983, 46-B1 (1989)
Surface Brightness Fluctuations and the Distance to the Virgo Cluster. *John L. Tonry, Edward A. Ajhar, & Gerard A. Luppino.* 346, L57, 181-B8 (1989)

AKE, T. B. Epsilon Aurigae: Polarization, Light Curves, and Geometry of the 1982–1984 Eclipse. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, T. B. Ake, T. Simon, & G. W. Collins.* 300, L11, 7-B2 (1986)

Variability of Markarian 1018: Seyfert 1.9 to Seyfert 1. *Ross D. Cohen, Richard J. Rudy, R. C. Puetter, T. B. Ake, & Craig B. Foltz.* 311, 135, 147-E2 (1986)

Ultraviolet and Optical Spectrophotometry of the Seyfert 1.8 Galaxy Markarian 609. *Richard J. Rudy, Ross D. Cohen, & T. B. Ake.* 332, 172, 125-A2 (1988)

AKE, THOMAS B. A White Dwarf Companion to the Main-Sequence Star 4 o^1 Orionis and the Binary Hypothesis for the Origin of Peculiar Red Giants. *Thomas B. Ake & Hollis R. Johnson.* 327, 214, 49-C8 (1988)

HD 51956: A Supergiant in an Interacting Binary. *Sidney B. Parsons & Thomas B. Ake.* 364, L13, 199-C1 (1990)

AKHMEDOW, SH. B. Structure of a Solar Active Region from RATAN 600 and Very Large Array Observations. *Sh. B. Akhmedow, V. N. Borovik, G. B. Gelfreikh, V. M. Bogod, A. N. Korzhavin, Z. E. Petrov, V. N. Dikij, Kenneth R. Lang, & Robert F. Willson.* 301, 460, 18-G9 (1986)

AKIBA, M. A Search for the Near-Infrared Extragalactic Background Light. *T. Matsumoto, M. Akiba, & H. Murakami.* 332, 575, 130-E5 (1988)

AKIYAMA, H. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

AKRITAS, MICHAEL G. Linear Regression in Astronomy. I. *Takashi Isobe, Eric D. Feigelson, Michael G. Akritas, & Gutti Jogesh Babu.* 364, 104, 195-C7 (1990)

ALBERT, C. E. Do UV-Bright Stars Mimic Normal (Population I) OB Stars? *R. F. Garrison & C. E. Albert.* 300, L69, 13-E6 (1986)

ALBINSON, J. S. Aperture Synthesis Observations of the 21 Centimeter Zeeman Effect toward Cassiopeia A. *U. J. Schwarz, T. H. Troland, J. S. Albinson, J. D. Bregman, W. M. Goss, & Carl Heiles.* 301, 320, 17-D4 (1986)

IRAS Observations of Collisionally Heated Dust in Large Magellanic Cloud Supernova Remnants. *James R. Graham, A. Evans, J. S. Albinson, M. F. Bode, & W. P. S. Meikle.* 319, 126, 94-D5 (1987)

A Detailed Study of the Remnant of Nova GK Persei and Its Environs. *E. R. Seaquist, M. F. Bode, D. A. Frail, J. A. Roberts, A. Evans, & J. S. Albinson.* 344, 805, 144-C1 (1989)

ALCAINO, GONZALO. *BVI* CCD Photometry of 47 Tucanae. *Gonzalo Alcaino & William Liller.* 319, 304, 96-C9 (1987)

BVI CCD Photometry of the Globular Cluster M4. *Gonzalo Alcaino, William Liller, & Franklin Alvarado.* 330, 569, 98-F11 (1988)

BVRI CCD Photometry of the Globular Cluster NGC 2808. *Gonzalo Alcaino, William Liller, Franklin Alvarado, & Erich Wenderoth.* 72, 693, 12-C9 (1990)

ALCOCK, C. R. The Quark-Hadron Phase Transition and Primordial Nucleosynthesis. *C. R. Alcock, G. M. Fuller, & G. J. Mathews.* 320, 439, 114-C1 (1987)

Galactic Chemical Evolution with Low and High Primordial Lithium. *G. J. Mathews, C. R. Alcock, & G. M. Fuller.* 349, 449, 20-G1 (1990)

Coupled Baryon Diffusion and Nucleosynthesis in the Early Universe. *G. J. Mathews, B. S. Meyer, C. R. Alcock, & G. M. Fuller.* 358, 36, 122-D11 (1990)

ALCOCK, CHARLES. The Effect of Clustering of Galaxies on the Statistics of Gravitational Lenses. *Nels Anderson & Charles Alcock.* 300, 56, 1-E9 (1986)

On the Distance Measure for Gravitational Lenses. *Charles Alcock & Nels Anderson.* 302, 43, 28-D7 (1986)

On the Number of Comets around Other Single Stars. *Charles Alcock, Carl C. Fristrom, & Russell Siegelman.* 302, 462, 33-C6 (1986)

Radiative Transfer in Circumstellar 1612 MHz OH Masers. *Charles Alcock & Randy R. Ross.* 305, 837, 78-B2 (1986)

Do Stars That Lose Mass Expand or Contract? A Semianalytical Approach. *Julia Heisler & Charles Alcock.* 306, 166, 83-B4 (1986)

Saturation and Beaming in Astrophysical Masers. III. Asymmetrically Pumped Masers. *Charles Alcock & Randy R. Ross.* 306, 649, 91-F1 (1986)

Strange Stars. *Charles Alcock, Edward Farhi, & Angela Olinto.* 310, 261, 134-G11 (1986)

Physical Conditions near Red Giants and Supergiant Stars: An Interpretation of SiO VLBI Maps. *Charles Alcock & Randy R. Ross.* 310, 835, 143-B1 (1986)

ALCOCK, CHARLES R. On Interstellar Lithium toward SN 1987A as an Indicator of Primordial Lithium. *Robert A. Malaney & Charles R. Alcock.* 351, 31, 38-D6 (1990)

ALEXANDER, DAVID R. An Opacity-sampled Treatment of Water Vapor. *David R. Alexander, Gordon C. Augason, & Hollis R. Johnson.* 345, 1014, 163-B8 (1989)

Model Atmospheres for K and M Giants. *Jeffery A. Brown, Hollis R. Johnson, David R. Alexander, Lori C. Cutright, & Christopher M. Sharp.* 71, 623, 44-E5 (1989)

ALEXANDER, S. G. The Nonlinear Transfer Problem in Accreting Pulsars: Stimulated Scattering Effects. *S. G. Alexander, P. Mészáros, & R. W. Bussard.* 342, 928, 113-G1 (1989)

Formation of Cyclotron Lines in Gamma-Ray Burst Spectra. *S. G. Alexander & P. Mészáros.* 344, L1, 140-A6 (1989)

ALI ALPAR, M. Spin-up of Young Pulsars Due to Rapid Cooling by Neutrino Emission. *M. Ali Alpar & Hakki Ögelman.* 349, L55, 24-C11 (1990)

ALIMI, J.-M. Collisionless Formation of Filaments in an Expanding Universe. *J.-M. Alimi, F. R. Bouchet, R. Pellat, J.-F. Sygnet, & F. Moutarde.* 354, 3, 74-B4 (1990)

ALIMI, JEAN-MICHEL. Nonlinear Clustering in the CfA Redshift Survey. *Jean-Michel Alimi, Alain Blanchard, & Richard Schaeffer.* 349, L5, 19-B1 (1990)

ALLAMANDOLA, L. J. Anharmonicity and the Interstellar Polycyclic Aromatic Hydrocarbon Infrared Emission Spectrum. *John R. Barker, L. J. Allamandola, & A. G. G. M. Tielens.* 315, L61, 45-E14 (1987)

Laboratory Studies of the Infrared Spectral Properties of CO in Astrophysical Ices. *S. A. Sandford, L. J. Allamandola, A. G. G. M. Tielens, & G. J. Valero.* 329, 498, 80-E10 (1988)

Infrared Emission from Comets. *K. S. Krishna Swamy, S. A. Sandford, L. J. Allamandola, F. C. Witteborn, & J. D. Bregman.* 340, 537, 73-G11 (1989)

The Infrared Emission Bands. III. Southern *IRAS* Sources. *Martin Cohen, A. G. G. M. Tielens, Jesse Bregman, Fred C. Witteborn, David M. Rank, L. J. Allamandola, Dianne Wooden, & M. de Muizon.* 341, 246, 87-A7 (1989)

New Emission Features in the 11–13 Micron Region and Their Relationship to Polycyclic Aromatic Hydrocarbons. *F. C. Witteborn, S. A. Sandford, J. D. Bregman, L. J. Allamandola, M. Cohen, D. H. Wooden, & A. L. Graps.* 341, 270, 87-C5 (1989)

Spatial Variations of the 3 Micron Emission Features within UV-excited Nebulae: Photochemical Evolution of Interstellar Polycyclic Aromatic Hydrocarbons. *T. R. Geballe, A. G. G. M. Tielens, L. J. Allamandola, A. Moorhouse, & P. W. J. L. Brand.* 341, 278, 87-C13 (1989)

The Infrared Emission Bands. II. A Spatial and Spectral Study of the Orion Bar. *J. D. Bregman, L. J. Allamandola, A. G. G. M. Tielens, T. R. Geballe, & F. C. Witteborn.* 344, 791, 144-B1 (1989)

The Discovery of a New Infrared Emission Feature at 1905 Wavenumbers (5.25 Microns) in the Spectrum of BD +30°3639 and Its Relation to the Polycyclic Aromatic Hydrocarbon Model. *L. J. Allamandola, J. D. Bregman, S. A. Sandford, A. G. G. M. Tielens, F. C. Witteborn, D. H. Wooden, & D. Rank.* 345, L59, 157-F1 (1989)

Interstellar Polycyclic Aromatic Hydrocarbons: The Infrared Emission Bands, the Excitation/Emission Mechanism, and the Astrophysical Implications. *L. J. Allamandola, A. G. G. M. Tielens, & J. R. Barker.* 71, 733, 46-E9 (1989)

The Physical and Infrared Spectral Properties of CO_2 in Astrophysical Ice Analogs. *S. A. Sandford & L. J. Allamandola.* 355, 357, 91-C9 (1990)

The Anomalous 3.43 and 3.53 Micron Emission Features toward HD 97048 and Elias 1: C-C Vibrational Modes of Polycyclic

Aromatic Hydrocarbons? *W. A. Schutte, A. G. G. M. Tielens, L. J. Allamandola, M. Cohen, & D. H. Wooden.* 360, 577, 153-D5 (1990)

ALLAMANDOLA, LOU. The Infrared Emission Bands. I. Correlation Studies and the Dependence on C/O Ratio. *Martin Cohen, Lou Allamandola, A. G. G. M. Tielens, Jesse Bregman, J. P. Simpson, Fred C. Witteborn, Diane Wooden, & Dave Rank.* 302, 737, 38-F10 (1986)

ALLEN, A. J. Morphology and Asymmetry of Active Galaxies from Cavity Stability. *A. J. Allen.* 301, 44, 14-D10 (1986)

Dynamical Heating of Stars as a Fueling Mechanism for Active Galactic Nuclei. *A. J. Allen & P. A. Hughes.* 313, 152, 16-F2 (1987)

ALLEN, ANTHONY J. Tidal Limitation of Stellar Systems on Both Circular and Elongated Orbits. *Anthony J. Allen & Douglas O. Richstone.* 325, 583, 27-A1 (1988)

ALLEN, B. Images of Four Compact Steep-Spectrum Quasars with a Resolution of 20 Milliarcseconds at 329.1 MHz. *R. S. Simon, A. C. S. Readhead, A. T. Moffet, P. N. Wilkinson, R. Booth, B. Allen, & B. F. Burke.* 354, 140, 75-F8 (1990)

ALLEN, D. A. Compact Radio Cores in Extremely Luminous Far-Infrared Galaxies. *R. P. Norris, D. A. Allen, R. A. Sramek, M. J. Kesteven, & E. R. Troup.* 359, 291, 139-F1 (1990)

ALLEN, J. E., JR. CO Formation in the Metal-rich Ejecta of SN 1987A. *S. J. Petuchowski, E. Dwek, J. E. Allen, Jr., & J. A. Nuth III.* 342, 406, 105-F14 (1989)

ALLEN, L. E. Hidden H II Regions in Infrared-bright Galaxies. *Judith S. Young, S. G. Kleinmann, & L. E. Allen.* 334, L63, 169-B1 (1988)

ALLEN, M. M. Interstellar Absorption along the Line of Sight to σ Scorpii Using *Copernicus* Observations. *M. M. Allen, T. P. Snow, & E. B. Jenkins.* 355, 130, 88-E9 (1990)

Far-Ultraviolet Extinction Determined from *Voyager* Data. *Theodore P. Snow, M. M. Allen, & R. S. Polidan.* 359, L23, 138-C1 (1990)

Interstellar Absorption along the Line of Sight to σ Scorpii Using *Copernicus* Observations: Erratum. *M. M. Allen, T. P. Snow, & E. B. Jenkins.* 364, 335, 198-B12 (1990) (Orig. paper in 355, 130, 88-E9 (1990))

ALLEN, MARK. The Detection of High-Velocity Outflows from M8E-IR. *George F. Mitchell, Mark Allen, Reinhard Beer, Richard Dekany, Wesley Huntress, & Jean-Pierre Maillard.* 327, L17, 53-B6 (1988)

The Ratio of Solid to Gas Phase CO in the Line of Sight to W33A. *George F. Mitchell, Mark Allen, & Jean-Pierre Maillard.* 333, L55, 152-C10 (1988)

The Gas Environment of the Young Stellar Object GL 2591 Studied by Infrared Spectroscopy. *George F. Mitchell, Charles Curry, Jean-Pierre Maillard, & Mark Allen.* 341, 1020, 97-G1 (1989)

Hot and Cold Gas toward Young Stellar Objects. *George F. Mitchell, Jean-Pierre Maillard, Mark Allen, Reinhard Beer, & Kenneth Belcourt.* 363, 554, 191-A9 (1990)

ALLEN, MORGAN. The Active Chromosphere Binary HD 17433 (VY Arietis). *Bernard W. Bopp, Steven H. Saar, Carol Ambruster, Paul Feldman, Robert Dempsey, Morgan Allen, & Samuel C. Barden.* 339, 1059, 64-G1 (1989)

ALLEN, R. J. Spiral Structure of M51: Thermal and Nonthermal Emission. *R. P. J. Tilanus, R. J. Allen, J. M. van der Hulst, P. C. Crane, & R. C. Kennicutt.* 330, 667, 99-G1 (1988)

Spiral Structure of M51: Displacement of the H I from the Nonthermal Radio Arms. *R. P. J. Tilanus & R. J. Allen.* 339, L57, 66-C1 (1989)

Radio Emission from Supernova SN 1986J in NGC 891. *S. Sukumar & R. J. Allen.* 341, 883, 96-B3 (1989)

ALLEN, RICHARD G. Evidence for Accretion Disks in Highly Polarized Quasars. *Paul S. Smith, Richard Elston, Graham Berriman, Richard G. Allen, & Thomas J. Balonek.* 326, L39, 46-A9 (1988)

Time-resolved Spectroscopy and Photometry of the Eclipsing AM Herculis Binary EXO 033319−2554.2. *Richard G. Allen, Graham Berriman, Paul S. Smith, & Gary D. Schmidt.* 347, 426, 187-D1 (1989)

ALLER, H. D. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Observations of Three BL Lacertae Objects: Constraints on Inhomogeneous Relativistically Beamed Jet Models. *D. M. Worrall, J. M. Rodríguez-Espinosa, W. Z. Wiśniewski, H. R. Miller, F. C. Bruhweiler, M. F. Aller, & H. D. Aller.* 303, 589, 49-A2 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

Synchrotron Emission from Shocked Relativistic Jets. I. The Theory of Radio-Wavelength Variability and Its Relation to Superluminal Motion. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 341, 54, 84-F1 (1989)

Synchrotron Emission from Shocked Relativistic Jets. II. A Model for the Centimeter Wave Band Quiescent and Burst Emission from BL Lacertae. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 341, 68, 84-G1 (1989)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

ALLER, HUGH D. Radio Observations of the Crab-like Supernova Remnant 3C 58. I. Total Intensity Observations. *Stephen P. Reynolds & Hugh D. Aller.* 327, 845, 57-G9 (1988)

Multifrequency Observations of the Double-Nucleus Galaxy Markarian 266: Enhanced Synchrotron Emission Induced by a Merger. *Joseph M. Mazzarella, Ralph A. Gaume, Hugh D. Aller, & Philip A. Hughes.* 333, 168, 139-G8 (1988)

ALLER, L. H. Observations of the Bowen Fluorescent Mechanism in Planetary Nebulae. *Lauren Likkel & L. H. Aller.* 301, 825, 24-F2 (1986)

Atomic Structure Calculations and Nebular Diagnostics. *Stanley J. Czyzak, C. D. Keyes, & L. H. Aller.* 61, 159, 18-F1 (1986)

A Spectroscopic Survey of 51 Planetary Nebulae. *L. H. Aller & C. D. Keyes.* 65, 405, 34-A1 (1987)

ALLER, LAWRENCE H. Origin of Planetary Nebulae: Morphology, Carbon-to-Oxygen Abundance Ratios, and Central Star Multiplicity. *B. Zuckerman & Lawrence H. Aller.* 301, 772, 24-A10 (1986)

Spectrum and Chemical Analysis of the Double-Ring Planetary Nebula IC 1297. *Lawrence H. Aller, Charles D. Keyes, & Walter A. Feibelman.* 311, 930, 158-A10 (1986)

The (C III λ1909/Si III λ1892) Ratio as a Diagnostic for Planetary Nebulae and Symbiotic Stars. *Walter A. Feibelman & Lawrence H. Aller.* 319, 407, 97-E11 (1987)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 320, 159, 109-F12 (1987)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds: Erratum. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 326, 1040, 45-A9 (1988) (Orig. paper in 320, 159, 109-F12 (1987))

An Extremely Carbon-poor Planetary Nebula in the Small Magellanic Cloud. *Stephen J. Meatheringham, Stephen P. Maran, Theodore P. Stecher, Andrew G. Michalitsianos, Theodore R. Gull, Lawrence H. Aller, & Charles D. Keyes.* 361, 101, 158-C5 (1990)

ALLER, M. F. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Observations of Three BL Lacertae Objects: Constraints on Inhomogeneous Relativistically Beamed Jet Models. *D. M. Worrall, J. M. Rodríguez-Espinosa, W. Z. Wiśniewski, H. R. Miller, F. C. Bruhweiler, M. F. Aller, & H. D. Aller.* 303, 589, 49-A2 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

Synchrotron Emission from Shocked Relativistic Jets. I. The Theory of Radio-Wavelength Variability and Its Relation to Superluminal Motion. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 341, 54, 84-F1 (1989)

Synchrotron Emission from Shocked Relativistic Jets. II. A Model for the Centimeter Wave Band Quiescent and Burst Emission from BL Lacertae. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 341, 68, 84-G1 (1989)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

ALLKOFER, O. C. Searches for Narrow-Angle Anisotropies in the Primary Energy Range 0.1–10 TeV: Erratum. *O. C. Allkofer, W. D. Dau, H. Jokisch, G. Klemke, R. C. Uhr, G. Bella, & Y. Oren.* 305, 954, 79-D10 (1986) (Orig. paper in 291, 468, 40-A2 (1985))

ALLOIN, D. Absorption-Line Gradients in the Optical Spectrum of the M31 Globular Cluster Vetesnik 42. *T. J. Davidge, D. Alloin, & P. Jablonka.* 358, L1, 127-A6 (1990)

ALLOIN, DANIELLE. Recurrent Outbursts in the Broad-Line Region of NGC 1566. *Danielle Alloin, Didier Pelat, M. M. Phillips, R. A. E. Fosbury, & K. Freeman.* 308, 23, 108-C2 (1986)

Detection of Strong Carbon Monoxide Emission from the Host Galaxy of the Quasar I Zw 1. *Richard Barvainis, Danielle Alloin, & Robert Antonucci.* 337, L69, 32-B1 (1989)

The Empirical Difference between Radio-loud and Radio-quiet Quasars. *Robert Antonucci, Richard Barvainis, & Danielle Alloin.* 353, 416, 69-B13 (1990)

ALLWRIGHT, J. W. B. *BVI* Photometry of Globular Clusters in M87. *Jean Couture, William E. Harris, & J. W. B. Allwright.* 73, 671, 27-D9 (1990)

ALMLÖF, JAN. Complete Active Space Self-consistent Field Calculations of the Vibrational Band Strengths for C_3. *Uffe G. Jørgensen, Jan Almlöf, & Per E. M. Siegbahn.* 343, 554, 124-G11 (1989)

ALMOZNINO, E. High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. I. Markarian 279. *D. Maoz, H. Netzer, E. Leibowitz, N. Brosch, A. Laor, H. Mendelson, S. Beck, E. Almoznino, & T. Mazeh.* 351, 75, 39-A5 (1990)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. II. NGC 5548. *H. Netzer, D. Maoz, A. Laor, H. Mendelson, N. Brosch, E. Leibowitz, E. Almoznino, S. Beck, & T. Mazeh.* 353, 108, 63-D7 (1990)

ALONSO-COSTA, JOSÉ L. Hydrogen Line and Continuum Emission in Young Stellar Objects. I. Excitation Model. *John Kwan & José L. Alonso-Costa.* 330, 870, 102-B1 (1988)

Hydrogen Line and Continuum Emission in Young Stellar Objects. II. Theoretical Results and Observational Constraints. *José L. Alonso-Costa & John Kwan.* 338, 403, 38-A1 (1989)

Hydrogen Line and Continuum Emission in Young Stellar Objects. III. Line Ratios and Physical Conditions. *José L. Alonso-Costa & John Kwan.* 356, 662, 108-D7 (1990)

ALPAR, M. A. On the Dynamical Coupling between the Superfluid Interior and the Crust of a Neutron Star. *M. A. Alpar & J. A. Sauls.* 327, 723, 56-E5 (1988)

Spontaneous Superfluid Unpinning and the Inhomogeneous Distribution of Vortex Lines in Neutron Stars. *K. S. Cheng, M. A. Alpar, D. Pines, & J. Shaham.* 330, 835, 101-F8 (1988)

Vortex Creep and the Internal Temperature of Neutron Stars: Linear and Nonlinear Response to a Glitch. *M. A. Alpar, K. S. Cheng, & D. Pines.* 346, 823, 177-E2 (1989)

ALPAR, M. ALI. Vortex Creep and the Internal Temperature of Neutron Stars: Timing Noise in Pulsars. *M. Ali Alpar, Radha Nandkumar, & David Pines.* 311, 197, 148-B11 (1986)

ALTAMORE, A. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)

The C IV Doublet Ratio Intensity Effect in Symbiotic Stars. *A. G. Michalitsianos, M. Kafatos, R. P. Fahey, R. Viotti, A. Cassatella, & A. Altamore.* 331, 477, 111-F1 (1988)

ALTAMORE, ALDO. The Ultraviolet Spectrum of η Carinae. *Roberto Viotti, Lucio Rossi, Angelo Cassatella, Aldo Altamore, & Giovanni Battista Baratta.* 71, 983, 49-F5 (1989)

ALTNER, BRUCE. The Progenitor of SN 1987A: Spatially Resolved Ultraviolet Spectroscopy of the Supernova Field. *George Sonneborn, Bruce Altner, & Robert P. Kirshner.* 323, L35, 158-C7 (1987)

ALTROCK, R. C. Rotation Characteristics of the Fe XIV (5303 Å) Solar Corona. *D. G. Sime, R. R. Fisher, & R. C. Altrock.* 336, 454, 6-G3 (1989)

ALTSCHULER, D. R. Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)

ALTSCHULER, DANIEL R. Detection of Atomic Hydrogen in the Young Planetary Nebula IC 4997. *Daniel R. Altschuler, Stephen E. Schneider, Carlo Giovanardi, & Peter R. Silverglate.* 305, L85, 80-E7 (1986)

Atomic Hydrogen in Planetary Nebulae. *Stephen E. Schneider, Peter R. Silverglate, Daniel R. Altschuler, & Carlo Giovanardi.* 314, 572, 35-G1 (1987)

ALVARADO, FRANKLIN. *BVI* CCD Photometry of the Globular Cluster M4. *Gonzalo Alcaino, William Liller, & Franklin Alvarado.* 330, 569, 98-F11 (1988)

BVRI CCD Photometry of the Globular Cluster NGC 2808. *Gonzalo Alcaino, William Liller, Franklin Alvarado, & Erich Wenderoth.* 72, 693, 12-C9 (1990)

ALVAREZ, H. Sandqvist 187: A Dense Molecular Cloud in Norma. *H. Alvarez, L. Bronfman, R. Cohen, G. Garay, J. Graham, & P. Thaddeus.* 300, 756, 11-D8 (1986)

A CO Survey of the Southern Milky Way: The Mean Radial Distribution of Molecular Clouds within the Solar Circle. *L. Bronfman,*

R. S. Cohen, H. Alvarez, J. May, & P. Thaddeus. 324, 248, 3-G12 (1988)

A Deep CO Survey of Molecular Clouds in the Southern Milky Way. *L. Bronfman, H. Alvarez, R. S. Cohen, & P. Thaddeus.* 71, 481, 42-A7 (1989)

The Rotation of the Galaxy within the Solar Circle. *H. Alvarez, J. May, & L. Bronfman.* 348, 495, 8-G1 (1990)

ALVES, MARIA V. Nonlinear Generation of the Fundamental Radiation of Interplanetary Type III Radio Bursts. *Abraham C.-L. Chian & Maria V. Alves.* 330, L77, 97-B3 (1988)

AMANO, T. Laboratory Detection of HC_3NH^+ by Infrared Difference Frequency Laser Spectroscopy. *Sang K. Lee & T. Amano.* 323, L145, 164-E4 (1987)

Laboratory Measurements of the Abundance Ratio $[HCO^+]/[HOC^+]$ and Their Astrophysical Implications. *T. Amano & T. Nakanaga.* 328, 373, 66-C2 (1988)

Is the Dissociative Recombination of H_3^+ Really Slow? A New Spectroscopic Measurement of the Rate Constant. *T. Amano.* 329, L121, 89-G5 (1988)

Laboratory Detection of CH_3CNH^+ by Infrared Difference Frequency Laser Spectroscopy. *T. Amano.* 330, L137, 105-B7 (1988)

Laboratory Detection of Protonated Formaldehyde (H_2COH^+). *T. Amano & H. E. Warner.* 342, L99, 117-F10 (1989)

Searches for the Protonated Interstellar Species HC_3NH^+, CH_3CNH^+, and $HOCS^+$: Implications for Ion-Molecule Chemistry. *B. E. Turner, T. Amano, & P. A. Feldman.* 349, 376, 18-E1 (1990)

Search for HC_3NH^+: The Upper Limit of the Column Density in TMC-1. *T. Amano, S. Saito, S. Yamamoto, K. Kawaguchi, H. Suzuki, M. Ohishi, & N. Kaifu.* 351, 500, 46-C6 (1990)

AMANO, TAKAYOSHI. The Laboratory Observation of the $J=1$–0, $K=0$ Transition of the H_3S^+ Ion. *Shuji Saito, Satoshi Yamamoto, & Takayoshi Amano.* 314, L27, 33-C14 (1987)

AMBRUSTER, CAROL. The Active Chromosphere Binary HD 17433 (VY Arietis). *Bernard W. Bopp, Steven H. Saar, Carol Ambruster, Paul Feldman, Robert Dempsey, Morgan Allen, & Samuel C. Barden.* 339, 1059, 64-G1 (1989)

AMBRUSTER, CAROL W. The *HEAO* A-1 All-Sky Survey of Fast X-Ray Transients. *Carol W. Ambruster & Kent S. Wood.* 311, 258, 148-G9 (1986)

Rapid, Low-Level X-Ray Variability in Active Late-Type Dwarfs. *Carol W. Ambruster, Salvatore Sciortino, & L. Golub.* 65, 273, 32-B4 (1987)

AMBWANI, KAILASH. Gamma-Ray Spectra and Energy Deposition for Type Ia Supernovae. *Kailash Ambwani & Peter Sutherland.* 325, 820, 29-E2 (1988)

AMENDOLA, LUCA. Breaking Scale Invariance with Quantum Gravity. *Luca Amendola, Franco Occhionero, & Diego Saez.* 349, 399, 20-C1 (1990)

AMENDT, PETER. Solar Coronal Loop Heating by Cross-Field Wave Transport. *Peter Amendt & Gregory Benford.* 341, 1082, 98-E4 (1989)

Baroclinic Toroidal Figures of Equilibrium. *Peter Amendt, Antonio Lanza, & Marek A. Abramowicz.* 343, 437, 123-D12 (1989)

Nonlinear Superposition of Solutions to Self-gravitating Fluid Equations. *Peter Amendt & Antonio Lanza.* 350, 597, 33-E10 (1990)

Galactic Anisotropy and Energy Extremization. *Peter Amendt.* 359, 23, 134-D1 (1990)

AMICONE, L. A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)

AMSTERDAMSKI, P. 2.7 K Radiation and the Isotropy of the Universe. *S. Bajtlik, R. Juszkiewicz, M. Prószyński, & P. Amsterdamski.* 300, 463, 8-C1 (1986)

AN, C.-H. Propagating and Nonpropagating Compression Waves in an Isothermal Atmosphere with Uniform Horizontal Magnetic Field. *Z. E. Musielak, C.-H. An, R. L. Moore, & S. T. Suess.* 344, 478, 138-G10 (1989)

Reflection and Trapping of Transient Alfvén Waves Propagating in an Isothermal Atmosphere with Constant Gravity and Uniform Magnetic Field. *C.-H. An, Z. E. Musielak, R. L. Moore, & S. T. Suess.* 345, 597, 156-D9 (1989)

Reflection and Trapping of Alfvén Waves in a Spherically Symmetric Stellar Atmosphere. *C.-H. An, S. T. Suess, R. L. Moore, & Z. E. Musielak.* 350, 309, 28-G3 (1990)

AN, CHANG-HYUK. Condensation Modes in Sheared Magnetic Fields. *Chang-Hyuk An.* 304, 532, 59-F9 (1986)

Magnetohydrodynamic Instabilities in Coronal Arcades. *Chang-Hyuk An, S. T. Suess, & S. T. Wu.* 337, 989, 31-B1 (1989)

ANANTHARAMAIAH, K. R. Stimulated Emission of Carbon Recombination Lines from Cold Clouds in the Direction of Cassiopeia A. *H. E. Payne, K. R. Anantharamaiah, & W. C. Erickson.* 341, 890, 96-C1 (1989)

Radio Studies of the Galactic Center. I. The Sagittarius A Complex. *A. Pedlar, K. R. Anantharamaiah, R. D. Ekers, W. M. Goss, J. H. van Gorkom, U. J. Schwarz, & Jun-hui Zhao.* 342, 769, 112-A1 (1989)

A Search for Localized Sources of Noncosmological Deuterium near the Galactic Center. *D. A. Lubowich, K. R. Anantharamaiah, & Jay M. Pasachoff.* 345, 770, 160-C5 (1989)

ANDERS, EDWARD. Interstellar Silicon Carbide: How Much Older than the Solar System? *Ming Tang & Edward Anders.* 335, L31, 177-C10 (1988)

ANDERSON, C. M. R Coronae Borealis Dust Ejections: A Preferred Plane? *S. A. Stanford, G. C. Clayton, M. R. Meade, K. H. Nordsieck, B. A. Whitney, M. A. Murison, M. A. Nook, & C. M. Anderson.* 325, L9, 25-A14 (1988)

A Rotating, Expanding Disk in the Wolf-Rayet Star EZ Canis Majoris? *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. A. Nook, A. M. Magalhães, M. Taylor, K. S. Bjorkman, & C. M. Anderson.* 365, L19, 212-C1 (1990)

ANDERSON, E. Forbidden Line and Hα Profiles in T Tauri Star Spectra: A Probe of Anisotropic Mass Outflows and Circumstellar Disks. *Suzan Edwards, Sylvie Cabrit, Stephen E. Strom, Ingeborg Heyer, Karen M. Strom, & E. Anderson.* 321, 473, 127-C10 (1987)

ANDERSON, E. R. Modeling of Solar Oscillation Power Spectra. *E. R. Anderson, T. L. Duvall, Jr., & S. M. Jefferies.* 364, 699, 204-G4 (1990)

ANDERSON, EDWIN. Spectrophotometric Standards. *Philip Massey, Kevin Strobel, Jeannette V. Barnes, & Edwin Anderson.* 328, 315, 65-D8 (1988)

ANDERSON, EDWIN R. A Detailed Study of the Lynds 1551 Star Formation Region. *John T. Stocke, Patrick M. Hartigan, Stephen E. Strom, Karen M. Strom, Edwin R. Anderson, Lee W. Hartmann, & Scott J. Kenyon.* 68, 229, 26-D1 (1988)

ANDERSON, J. A. Accelerated Decay of $^{180}Ta^m$ and ^{176}Lu in Stellar Interiors through (γ,γ') Reactions. *J. J. Carroll, J. A. Anderson, J. W. Glesener, C. D. Eberhard, & D. B. Collins.* 344, 454, 138-E8 (1989)

ANDERSON, JOHANNES. New Strong Evidence for the Importance of Convective Overshooting in Intermediate-Mass Stars. *Johannes Anderson, Birgitta Nordström, & Jens Viggo Clausen.* 363, L33, 193-E7 (1990)

ANDERSON, JOHN D. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

Bounds on Dark Matter in Solar Orbit. *John D. Anderson, Eunice L. Lau, Anthony H. Taylor, Duane A. Dicus, Doris C. Teplitz, & Vigdor L. Teplitz.* 342, 539, 107-C13 (1989)

ANDERSON, LAWRENCE. Statistical Mechanics of Partially Ionized Stellar Plasmas: The Planck-Larkin Partition Function, Polarization Shifts, and Simulations of Optical Spectra. *Werner Däppen, Lawrence Anderson, & Dimitri Mihalas.* 319, 195, 95-B6 (1987)

ANDERSON, LAWRENCE S. Chromospheric and Coronal Heating. *Lawrence S. Anderson & R. Grant Athay.* 336, 1089, 16-A5 (1989)

Line Blanketing without Local Thermodynamic Equilibrium. II. A Solar-Type Model in Radiative Equilibrium. *Lawrence S. Anderson.* 339, 558, 56-G1 (1989)

Model Solar Chromosphere with Prescribed Heating. *Lawrence S. Anderson & R. Grant Athay.* 346, 1010, 179-F1 (1989)

ANDERSON, MARTHA. Flow Patterns in Radio Hot Spots: A Study of 3C 33 North. *Lawrence Rudnick & Martha Anderson.* 355, 427, 93-F7 (1990)

ANDERSON, NELS. The Effect of Clustering of Galaxies on the Statistics of Gravitational Lenses. *Nels Anderson & Charles Alcock.* 300, 56, 1-E9 (1986)

Photometry of Resolved Galaxies. V. NGC 6822. *J. G. Hoessel & Nels Anderson.* 60, 507, 7-D4 (1986)

Models of Extended Relativistic Envelopes of Neutron Stars. *Bohdan Paczyński & Nels Anderson.* 302, 1, 28-A7 (1986)

On the Distance Measure for Gravitational Lenses. *Charles Alcock & Nels Anderson.* 302, 43, 28-D7 (1986)

Models of U Geminorum and Z Chamaeleontis Based on Disk Radius Variations. *Nels Anderson.* 325, 266, 22-A11 (1988)

Collisional Pumping of Water Masers by Species of Particles at Different Temperatures. *Nels Anderson & William D. Watson.* 348, L69, 13-C11 (1990)

ANDERSON, SCOTT F. The X-Ray Properties of High-Redshift Quasi-stellar Objects. *Scott F. Anderson & Bruce Margon.* 314, 111, 29-B14 (1987)

An Exceptionally Bright, Compact Starburst Nucleus. *Bruce Margon, Scott F. Anderson, Mario Mateo, Michel Fich, & Philip Massey.* 334, 597, 163-A1 (1988)

Infrared-selected "Warm" Galaxies Observed in X-Rays. *Paul J. Green, Martin Ward, Scott F. Anderson, Bruce Margon, M. H. K. DeGrijp, & George K. Miley.* 339, 93, 51-B14 (1989)

Ten Years of SS 433 Kinematics. *Bruce Margon & Scott F. Anderson.* 347, 448, 187-E11 (1989)

ANDERSON, TODD. The Laboratory Millimeter- and Submillimeter-Wave Spectrum of ^{13}C Methanol. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 64, 703, 27-E4 (1987)

The Laboratory Millimeter- and Submillimeter-Wave Spectrum of CH_3OD. *Todd Anderson, Richard L. Crownover, Eric Herbst, & Frank C. De Lucia.* 67, 135, 12-A1 (1988)

The Laboratory Millimeter- and Submillimeter-Wave Spectrum of the First Two Excited Torsional States of $^{13}CH_3OH$. *Todd Anderson, Eric Herbst, Frank C. De Lucia, K. V. L. N. Sastry, & R. M. Lees.* 68, 821, 36-A1 (1988)

Additional Measurements and a Refined Analysis of the Millimeter- and Submillimeter-Wave Spectrum of Methanol. *Todd Anderson, Frank C. De Lucia, & Eric Herbst.* 72, 797, 16-C7 (1990)

The Millimeter- and Submillimeter-Wave Spectrum of $^{13}CH_3OH$ Revisited. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 74, 647, 39-C11 (1990)

ANDERSSON, B-G. Mass Loss from Red Giant Stars. II. Carbon Stars. *P. G. Wannier, R. Sahai, B-G Andersson, & H. R. Johnson.* 358, 251, 125-C1 (1990)

ANDRÉ, PHILIPPE. A Young Radio-emitting Magnetic B Star in the Rho Ophiuchi Cloud. *Philippe André, Thierry Montmerle, Eric D. Feigelson, Peter C. Stine, & Karl-Ludwig Klein.* 335, 940, 183-A10 (1988)

ANDREANI, P. The Large-Scale Anisotropies of the Extragalactic Infrared Background. *R. Fabbri, P. Andreani, F. Melchiorri, & B. Nisini.* 315, 12, 40-B4 (1987)

Millimeter Observations of the Magellanic Clouds. *P. Andreani, C. Ceccarelli, G. Dall'Oglio, L. Martinis, L. Piccirillo, L. Pizzo, L. Rossi, & C. Venturino.* 348, 467, 8-D3 (1990)

ANDREANI, PAOLA. Evolution of Fe, *r*, and *s* Elements in Our Galaxy. *Paola Andreani, Elisabeth Vangioni-Flam, & Jean Audouze.* 334, 698, 164-B1 (1988)

ANGEL, J. R. P. 15 Meter Multiple Mirror Telescope Design Study. *J. R. P. Angel & N. J. Woolf.* 301, 478, 19-A13 (1986)

ANGELINI, L. The Discovery of the 2 Hour Modulated X-Ray Source EXO 033319–2554.2, an AM Herculis System. *L. P. Osborne, P. Giommi, L. Angelini, G. Tagliaferri, & L. Stella.* 328, L45, 74-D10 (1988)

An *EXOSAT* Observation of CTB 80. *L. Angelini, N. E. White, A. N. Parmar, A. Smith, & M. A. Stevens.* 330, L43, 96-F10 (1988)

An X-Ray Flare from a B9+ Post–T Tauri Star System in the Field of the Seyfert Galaxy III Zw 2. *G. Tagliaferri, P. Giommi, L. Angelini, J. P. Osborne, & R. Pallavicini.* 331, L113, 121-G1 (1988)

The Discovery of 0.2 Hz Quasi-periodic Oscillations in the X-Ray Flux of the Transient 42 Second Pulsar EXO 2030+374. *L. Angelini, L. Stella, & A. N. Parmar.* 346, 906, 178-D9 (1989)

ANGERHOFER, P. E. Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)

ANGLADA, G. Are the High-Velocity Molecular Flows Really Clumpy? *J. Cantó, L. F. Rodríguez, & G. Anglada.* 321, 877, 134-B8 (1987)

ANGLADA, GUILLEM. Ammonia Observations of Outflow Regions. *Guillem Anglada, Luis F. Rodríguez, José M. Torrelles, Robert Estalella, Paul T. P. Ho, Jorge Cantó, Rosario López, & Lourdes Verdes-Montenegro.* 341, 208, 86-E1 (1989)

Further Studies of the Role of Dense Molecular Clouds around Outflow Sources. *Lourdes Verdes-Montenegro, José M. Torrelles, Luis F. Rodríguez, Guillem Anglada, Rosario López, Robert Estalella, Jorge Cantó, & Paul T. P. Ho.* 346, 193, 168-E1 (1989)

ANGUITA, C. IRAS 18059–3211: Optically Known as "Gomez's Hamburger": Erratum. *M. T. Ruiz, V. Blanco, J. Maza, S. Heathcote, A. Phillips, K. Kawara, C. Anguita, M. Hamuy, & A. Gómez.* 320, L157, 121-F14 (1987) (Orig. paper in 316, L21, 56-B10 (1987))

ANGUITA, CLAUDIO. IRAS 18059–3211: Optically Known as "Gomez's Hamburger." *María Teresa Ruiz, Víctor Blanco, José Maza, Steve Heathcote, Andrew Phillips, Kimiaki Kawara, Claudio Anguita, Mario Hamuy, & Arturo Gómez.* 316, L21, 56-B10 (1987)

ANICICH, V. G. Chemistry of Chlorine in Dense Interstellar Clouds. *Geoffrey A. Blake, V. G. Anicich, & W. T. Huntress, Jr.* 300, 415, 5-E9 (1986)

A Survey of Bimolecular Ion-Molecule Reactions for Use in Modeling the Chemistry of Planetary Atmospheres, Cometary Comae, and Interstellar Clouds. *V. G. Anicich & W. T. Huntress, Jr.* 62, 553, 38-E8 (1986)

ANSELMO, F. The X-Ray Structure of Centaurus A from 0.1 to 50 keV Observations with *EXOSAT*. *M. Morini, F. Anselmo, & D. Molteni.* 347, 750, 192-F3 (1989)

ANTHONY, D. M. Spiral Wave Viscosity in Self-gravitating Accretion Disks. *D. M. Anthony & R. G. Carlberg.* 332, 637, 131-C1 (1988)

ANTIA, H. M. New Limits to Bias and the Amount of Dark Matter in the Universe. *William C. Saslaw, H. M. Antia, & S. M. Chitre.* 315, L1, 45-A4 (1987)

A Model for Stellar Surface Convection and Photospheric Line Asymmetries. *H. M. Antia & S. K. Pandey.* 341, 1097, 98-F10 (1989)

ANTIOCHOS, S. K. The Structure of the Static Corona and Transition Region. *S. K. Antiochos & G. Noci.* 301, 440, 18-F1 (1986)

Force-free Magnetic Fields: The Magneto-frictional Method. *W.-H. Yang, P. A. Sturrock, & S. K. Antiochos.* 309, 383, 124-B2 (1986)

A Numerical Study of the Nonlinear Thermal Stability of Solar Loops. *J. A. Klimchuk, S. K. Antiochos, & J. T. Mariska.* 320, 409, 112-D13 (1987)

Mass Flows and the Ionization State of Coronal Loops. *G. Noci, D. Spadaro, R. A. Zappala, & S. K. Antiochos.* 338, 1131, 47-F1 (1989)

Effect of Coronal Elemental Abundances on the Radiative Loss Function. *J. W. Cook, C.-C. Cheng, V. L. Jacobs, & S. K. Antiochos.* 338, 1176, 48-B9 (1989)

Mass Flows and the Ionization States of Coronal Loops: Erratum. *G. Noci, D. Spadaro, R. A. Zappala, & S. K. Antiochos.* 349, 678, 23-F5 (1990) (Orig. paper in 338, 1131, 47-F1 (1989))

The Effect of Nonequilibrium Ionization on Ultraviolet Line Shifts in the Solar Transition Region. *D. Spadaro, G. Noci, R. A. Zappalà, & S. K. Antiochos.* 355, 342, 91-B5 (1990)

Episodic Coronal Heating. *P. A. Sturrock, W. W. Dixon, J. A. Klimchuk, & S. K. Antiochos.* 356, L31, 103-D11 (1990)

The Effects of Nonequilibrium Ionization on the Radiative Losses of the Solar Corona. *D. Spadaro, R. A. Zappalà, S. K. Antiochos, G. Lanzafame, & G. Noci.* 362, 370, 173-F9 (1990)

ANTIOCHOS, SPIRO K. Modeling of Coronal X-Ray Emission from Active Cool Stars. I. Hyades Cluster. *Robert A. Stern, Spiro K. Antiochos, & F. R. Harnden, Jr.* 305, 417, 71-F8 (1986)

On the Dividing Line for Stellar Coronae. *Spiro K. Antiochos, Bernhard M. Haisch, & Robert A. Stern.* 307, L55, 107-C1 (1986)

The Topology of Force-free Magnetic Fields and Its Implications for Coronal Activity. *Spiro K. Antiochos.* 312, 886, 12-E10 (1987)

Nonlinear Thermal Instability in Magnetized Solar Plasmas. *Judith T. Karpen, Spiro K. Antiochos, J. Michael Picone, & Russell B. Dahlburg.* 338, 493, 39-A1 (1989)

On the Formation of Current Sheets in the Solar Corona. *Judith T. Karpen, Spiro K. Antiochos, & C. Richard DeVore.* 356, L67, 110-D7 (1990)

ANTONIEWICZ, P. R. Atoms in Carbon Cages as a Source of Interstellar Diffuse Lines. *J. L. Ballester, P. R. Antoniewicz, & R. Smoluchowski.* 356, 507, 106-E8 (1990)

ANTONUCCI, E. On Magnetic Field Stochasticity and Nonthermal Line Broadening in Solar Flares. *E. Antonucci, R. Rosner, & K. Tsinganos.* 301, 975, 26-D4 (1986)

Simulations of the Ca XIX Spectral Emission from a Flaring Solar Crornal Loop. I. Thermal Case. *E. Antonucci, M. A. Dodero, G. Peres, S. Serio, & R. Rosner.* 322, 522, 143-F1 (1987)

High-Velocity Evaporation during the Impulsive Phase of the 1984 April 24 Flare. *E. Antonucci, M. A. Dodero, & R. Martin.* 73, 137, 19-D11 (1990)

Velocity-Temperature Distribution in the Evaporating Plasma during the Impulsive Phase of Solar Flares. *E. Antonucci, M. A. Dodero, & R. Martin.* 73, 147, 19-E11 (1990)

Rotation of the Photospheric Magnetic Fields: A North-South Asymmetry. *E. Antonucci, J. T. Hoeksema, & P. H. Scherrer.* 360, 296, 148-F3 (1990)

Velocity-Temperature Distribution in the Evaporating Plasma during the Impulsive Phase of Solar Flares: Erratum. *E. Antonucci, M. A. Dodero, & R. Martin.* 74, 830, 42-B3 (1990) (Orig. paper in 73, 147, 19-E11 (1990))

ANTONUCCI, R. R. J. Deep Radio Maps of BL Lacertae and 3C 446. *R. R. J. Antonucci.* 304, 634, 63-A6 (1986)

The Lyman Edge Test of the Quasar Emission Mechanism. *R. R. J. Antonucci, A. L. Kinney, & H. C. Ford.* 342, 64, 101-G3 (1989)

ANTONUCCI, ROBERT. Excess 2 Centimeter Emission: A New Continuum Component in the Spectra of Radio-quiet Quasars. *Robert Antonucci & Richard Barvainis.* 332, L13, 129-C4 (1988)

Detection of Strong Carbon Monoxide Emission from the Host Galaxy of the Quasar I Zw 1. *Richard Barvainis, Danielle Alloin, & Robert Antonucci.* 337, L69, 32-B1 (1989)

Millimeter, Centimeter, and Carbon Monoxide Observations of Radio-quiet Quasars and Luminous Seyfert 1 Galaxies Detected by *IRAS*. *Richard Barvainis & Robert Antonucci.* 70, 257, 22-B1 (1989)

The Empirical Difference between Radio-loud and Radio-quiet Quasars. *Robert Antonucci, Richard Barvainis, & Danielle Alloin.* 353, 416, 69-B13 (1990)

Narrow-Line Radio Galaxies as Quasars in the Sky Plane. *Robert Antonucci & Richard Barvainis.* 363, L17, 193-D1 (1990)

ANTONUCCI, ROBERT R. J. The Cores of Lobe-dominant Quasars. *Robert R. J. Antonucci & Richard Barvainis.* 325, L21, 31-B12 (1988)

Radio Properties of the Highly Polarized, Quiescent Quasar OI 287. *James S. Ulvestad & Robert R. J. Antonucci.* 328, 569, 69-D1 (1988)

A Large Family of Compact Radio Sources in the Starburst Nucleus of NGC 253. *Robert R. J. Antonucci & James S. Ulvestad.* 330, L97, 104-F11 (1988)

ANYAKOHA, M. W. Radio Emission from Large-Scale Radio Jets. *M. W. Anyakoha, P. N. Okeke, & S. E. Okoye.* 329, 97, 76-A7 (1988)

ANZER, U. A Twisted Flux-Tube Model for Solar Prominences. I. General Properties. *E. R. Priest, A. W Hood, & U. Anzer.* 344, 1010, 146-E1 (1989)

APPARAO, K. M. V. *Einstein* X-Ray Observations of Planetary Nebulae and Their Implications. *S. P. Tarafdar & K. M. V. Apparao.* 327, 342, 50-F10 (1988)

Optical and Ultraviolet Line and Continuum Emission from the Large Magellanic Cloud X-Ray Be Star A0538–66. *K. M. V. Apparao & S. P. Tarafdar.* 335, 147, 172-A6 (1988)

Einstein X-Ray Observations of Planetary Nebulae and Their Implications: Addendum. *S. P. Tarafdar & K. M. V. Apparao.* 343, 1007, 131-E4 (1989) (Orig. paper in 327, 342, 50-F10 (1988))

Observation of an Hα Outburst in the Be Star HR 4123. *K. K. Ghosh, K. M. V. Apparao, & S. P. Tarafdar.* 344, 437, 138-D1 (1989)

APPARAO, KRISHNA M. V. Effect of Balmer Continuum Absorption on Line Emission from Be Stars. *Krishna M. V. Apparao & S. P. Tarafdar.* 322, 976, 150-E7 (1987)

X-Ray Observations of Planetary Nebulae with the *EXOSAT* Satellite. *Krishna M. V. Apparao & S. P. Tarafdar.* 344, 826, 144-E1 (1989)

APPLEGATE, J. H. Cosmological Quantum Chromodynamics, Neutron Diffusion, and the Production of Primordial Heavy Elements. *J. H. Applegate, Craig J. Hogan, & R. J. Scherrer.* 329, 572, 83-A1 (1988)

APPLEGATE, JAMES H. Dynamical Effects of Stellar Evolution in Globular Clusters. *James H. Applegate.* 301, 132, 15-D3 (1986)

Magnetic Activity, Tides, and Orbital Period Changes in Close Binaries. *James H. Applegate & Joseph Patterson.* 322, L99, 152-D4 (1987)

Why Stars Become Red Giants. *James H. Applegate.* 329, 803, 85-G1 (1988)

Magnetic Activity and the Determination of the Tidal Synchronization Time in Close Binaries. *James H. Applegate.* 337, 865, 29-F3 (1989)

Hydrogen as a Test of Type Ia Supernova Progenitor Models. *James H. Applegate & James L. Terman.* 340, 380, 72-A5 (1989)

APPLETON, P. N. Star Formation Rates in Ring Galaxies from *IRAS* Observations. *P. N. Appleton & Curtis Struck-Marcell.* 312, 566, 9-A12 (1987)

Models of Ring Galaxies. I. The Growth and Disruption of Clouds in the Expanding Density Wave. *P. N. Appleton & Curtis Struck-Marcell.* 318, 103, 80-A14 (1987)

Models of Ring Galaxies. II. Extended Starbursts. *Curtis Struck-Marcell & P. N. Appleton.* 323, 480, 159-G5 (1987)

Extended Neutral Hydrogen Emission in the NGC 5903/5898 Binary Elliptical System: Evidence for a Double-Galaxy Accretion Event. *P. N. Appleton, A. Pedlar, & A. Wilkinson.* 357, 426, 117-G9 (1990)

ARAI, KENZO. The $^{14}N(e^-,\nu)^{14}C(\alpha,\gamma)^{18}O$ Reaction and Helium Flashes in Accreting Helium White Dwarfs. *Masa-aki Hashimoto, Ken'ichi Nomoto, Kenzo Arai, & Keisuke Kaminisi.* 307, 687, 104-D9 (1986)

ARAKELIAN, MARAT A. A Proposed Method for the Determination of the Bivariate Luminosity Function Utilizing an Incomplete Sample with an Application to Seyfert Galaxies. *Marat A. Arakelian.* 301, 92, 15-A5 (1986)

ARCORAGI, J.-P. Neutron Capture Nucleosynthesis during Core Helium Burning in Massive Stars. *N. Prantzos, M. Arnould, & J.-P. Arcoragi.* 315, 209, 42-C6 (1987)

ARENDT, RICHARD. Multiple-Shell Planetary Nebulae. I. Morphologies and Frequency of Occurrence. *You-Hua Chu, George H. Jacoby, & Richard Arendt.* 64, 529, 24-C1 (1987)

ARENDT, RICHARD G. Resolution of Compact Knots in Cassiopeia A. *Richard G. Arendt & John R. Dickel.* 315, 567, 46-G8 (1987)

The Evolution of the Radio Emission from Kepler's Supernova Remnant. *John R. Dickel, Robert Sault, Richard G. Arendt, Yutaka Matsui, & Kirk T. Korista.* 330, 254, 92-G9 (1988)

An Infrared Survey of Galactic Supernova Remnants. *Richard G. Arendt.* 70, 181, 19-F9 (1989)

Comparative Morphological Analysis of Puppis A at Radio, Infrared, Optical, and X-Ray Wavelengths. *Richard G. Arendt, Eli Dwek, Robert Petre, John R. Dickel, Robert S. Roger, Douglas K. Milne, & Michael J. Kesteven.* 350, 266, 28-C6 (1990)

ARENS, J. F. Discovery of Interstellar Acetylene. *J. H. Lacy, Neal J. Evans II, J. M. Achtermann, D. E. Bruce, J. F. Arens, & J. S. Carr.* 342, L43, 109-D7 (1989)

ARENS, JOHN F. Direct Imaging at 12 Microns of the Star-forming Region W51 IRS 2. *John Bally, John F. Arens, Roger Ball, Robert Becker, & John Lacy.* 323, L73, 158-F1 (1987)

ARÉVALO, M. J. Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. III. BH Virginis. *M. Zeilik, M. Ledlow, M. Rhodes, M. J. Arévalo, & E. Budding.* 354, 352, 78-D8 (1990)

ARGÜESO, F. Rings and Spots in the Structure of the Cosmic Background Radiation. *F. Argüeso, E. Martínez-González, & J. L. Sanz.* 336, 69, 1-G11 (1989)

ARMSTRONG, J. W. A Search for Sinusoidal Gravitational Radiation in the Period Range 30–2000 Seconds. *J. W. Armstrong, F. B. Estabrook, & H. D. Wahlquist.* 318, 536, 86-F8 (1987)

Observations of Field-aligned Density Fluctuations in the Inner Solar Wind. *J. W. Armstrong, W. A. Coles, M. Kojima, & B. J. Rickett.* 358, 685, 132-B1 (1990)

ARMUS, L. The Detection of Wolf-Rayet Stars in a Very Powerful Far-Infrared Galaxy: Direct Evidence for a Starburst. *L. Armus, T. M. Heckman, & G. K. Miley.* 326, L45, 46-B1 (1988)

A Millimeter-Wave Survey of CO Emission in Seyfert Galaxies. *T. M. Heckman, L. Blitz, A. S. Wilson, L. Armus, & G. K. Miley.* 342, 735, 111-E4 (1989)

ARMUS, LEE. Long-Slit Optical Spectroscopy of Powerful Far-Infrared Galaxies: The Nature of the Nuclear Energy Source. *Lee Armus, Timothy M. Heckman, & George K. Miley.* 347, 727, 192-D1 (1989)

A Search for T Tauri Stars in High-Latitude Molecular Clouds. I. *IRAS* Sources and CCD Imaging. *Loris Magnani, Jean-Pierre Caillault, & Lee Armus.* 357, 602, 120-B1 (1990)

The Optical Emission-Line Nebulae of Powerful Far-Infrared Galaxies. *Lee Armus, Timothy M. Heckman, & George K. Miley.* 364, 471, 201-G11 (1990)

On the Nature and Implications of Starburst-driven Galactic Superwinds. *Timothy M. Heckman, Lee Armus, & George K. Miley.* 74, 833, 43-B7 (1990)

ARNAL, E. M. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

ARNAUD, K. A. The Detection of Distant Cooling Flows and the Formation of Dark Matter. *A. C. Fabian, K. A. Arnaud, P. E. J. Nulsen, & R. F. Mushotzky.* 305, 9, 67-B1 (1986)

The X-Ray Properties of Two Galaxies with High Far-Infrared Luminosities: Arp 220 and Markarian 231. *S. A. Eales & K. A. Arnaud.* 324, 193, 3-C1 (1988)

Einstein Observations of the Hydra A Cluster and the Efficiency of Galaxy Formation in Groups and Clusters. *L. P. David, K. A. Arnaud, W. Forman, & C. Jones.* 356, 32, 99-D7 (1990)

ARNAUD, KEITH A. High-Resolution X-Ray Spectroscopy of Four Active Galaxies: Probing the Intercloud Medium. *Kenneth S. K. Lum, Claude R. Canizares, Thomas H. Markert, & Keith A. Arnaud.* 358, 139, 123-F11 (1990)

ARNAUD, M. CO Observations of the Cepheus Flare. I. Molecular Clouds Associated with a Nearby Bubble. *I. A. Grenier, F. Lebrun, M. Arnaud, T. M. Dame, & P. Thaddeus.* 347, 231, 185-A1 (1989)

EXOSAT Observations of the Kepler Supernova Remnant. *A. Smith, A. Peacock, M. Arnaud, J. Ballet, R. Rothenflug, & R. Rocchia.* 347, 925, 195-A9 (1989)

ARNETT, DAVID. Instabilities and Nonradial Motion in SN 1987A. *David Arnett, Bruce Fryxell, & Ewald Müller.* 341, L63, 99-G6 (1989)

The Light Curve of Supernova 1987A in Context. *David Arnett.* 343, 834, 129-E10 (1989)

ARNETT, W. DAVID. Three-dimensional Structure and Dynamics of a Supersonic Jet. *Clifford N. Arnold & W. David Arnett.* 305, L57, 80-C9 (1986)

Carbon Combustion Supernovae: Numerical Studies of the Final Evolution of Degenerate Carbon-Oxygen Cores. *Ewald Müller & W. David Arnett.* 307, 619, 103-F8 (1986)

Supernova Colors and Systematic Flux Dilution. *Albert J. Fu & W. David Arnett.* 307, 726, 105-A1 (1986)

Nucleosynthesis inside Thick Accretion Disks around a Black Hole. I. Thermodynamic Conditions and Preliminary Analysis. *Sandip K. Chakrabarti, Liping Jin, & W. David Arnett.* 313, 674, 24-B10 (1987)

Supernova Theory and Supernova 1987A. *W. David Arnett.* 319, 136, 94-E1 (1987)

On the Early Behavior of Supernova 1987A. *W. David Arnett.* 331, 377, 110-D8 (1988)

Nucleosynthesis inside Thick Accretion Disks around Black Holes. II. Results for Massive Black Holes. *Liping Jin, W. David Arnett, & Sandip K. Chakrabarti.* 336, 572, 9-F1 (1989)

On Relative Supernova Rates and Nucleosynthesis Roles. *W. David Arnett, David N. Schramm, & James W. Truran.* 339, L25, 58-C5 (1989)

The Late Behavior of Supernova 1987A. I. The Light Curve. *W. David Arnett & Albert Fu.* 340, 396, 72-B9 (1989)

The Late Behavior of Supernova 1987A. II. Gamma-Ray Transparency of the Ejecta. *Albert Fu & W. David Arnett.* 340, 414, 72-D1 (1989)

ARNOLD, CLIFFORD N. Three-dimensional Structure and Dynamics of a Supersonic Jet. *Clifford N. Arnold & W. David Arnett.* 305, L57, 80-C9 (1986)

ARNOULD, M. Nucleosynthesis and Evolution of Massive Stars with Mass Loss and Overshooting. *N. Prantzos, C. Doom, M. Arnould, & C. de Loore.* 304, 695, 63-E12 (1986)

Neutron Capture Nucleosynthesis during Core Helium Burning in Massive Stars. *N. Prantzos, M. Arnould, & J.-P. Arcoragi.* 315, 209, 42-C6 (1987)

ARNOULD, MARCEL. Slow Neutron Capture Nucleosynthesis in the Progenitor of SN 1987A. *Nikos Prantzos, Marcel Arnould, & Michel Cassé.* 331, L15, 114-B6 (1988)

ARONS, JONATHAN. Wave Propagation in Pulsar Magnetospheres: Dispersion Relations and Normal Modes of Plasmas in Superstrong Magnetic Fields. *Jonathan Arons & John J. Barnard.* 302, 120, 29-C8 (1986)

Wave Propagation in Pulsar Magnetospheres: Refraction of Rays in the Open Flux Zone. *John J. Barnard & Jonathan Arons.* 302, 138, 29-D12 (1986)

Radiation Gas Dynamics of Polar Cap Accretion onto Magnetized Neutron Stars: Basic Theory. *Jonathan Arons, Richard I. Klein, & Susan M. Lea.* 312, 666, 10-C1 (1987)

High-Luminosity Accretion in Wind-driven Binary X-Ray Sources. *Cheng Ho & Jonathan Arons.* 316, 283, 53-B3 (1987)

Fluctuation of Wind-driven Accretion in X-Ray Binaries. *Cheng Ho & Jonathan Arons.* 321, 404, 126-E11 (1987)

Continuum Radiative Transfer in X-Ray Pulsar Accretion Columns. I. Numerical Methods. *David J. Burnard, Richard I. Klein, & Jonathan Arons.* 324, 1001, 14-E4 (1988)

Thermal Cyclotron Reprocessing of Gamma-Ray Bursts: Theory and Model Spectra. *Dieter Hartmann, S. E. Woosley, & Jonathan Arons.* 332, 777, 133-A8 (1988)

Continuum Radiative Transfer in the Polar Columns of Accretion Powered Pulsars: Incoherent Scattering. *David J. Burnard, Richard I. Klein, & Jonathan Arons.* 349, 262, 17-B6 (1990)

ARP, H. C. The Peculiar Hydrogen Cloud in the Virgo Cluster and 3C 273. *H. C. Arp & G. Burbidge.* 353, L1, 67-A7 (1990)

ARP, HALTON. The Galaxy-Quasar Connection: NGC 4319 and Markarian 205. I. Direct Imagery. *Jack W. Sulentic & Halton Arp.* 319, 687, 102-D12 (1987)

The Galaxy-Quasar Connection: NGC 4319 and Markarian 205. II. Spectroscopy. *Jack W. Sulentic & Halton Arp.* 319, 693, 102-E10 (1987)

ARPIGNY, C. High-Resolution Spectroscopy of the C_2 Swan 0–0 Band from Comet P/Halley. *D. L. Lambert, Y. Sheffer, A. C. Danks, C. Arpigny, & P. Magain.* 353, 640, 71-G6 (1990)

ARQUILLA, R. A. CO Observations of *IRAS* Sources with 11.3 Micron Silicon Carbide Dust Features. *D. A. Leahy, Sun Kwok, & R. A. Arquilla.* 320, 825, 118-F13 (1987)

CO Observations of *IRAS* Sources with 11.3 Micron Silicon Carbide Dust Features: Erratum. *D. A. Leahy, Sun Kwok, & R. A. Arquilla.* 332, 1092, 136-D8 (1988) (Orig. paper in 320, 825, 118-F13 (1987))

ARQUILLA, RICHARD. A Detailed Examination of the Kinematics of Rotating Dark Clouds. *Richard Arquilla & Paul F. Goldsmith.* 303, 356, 45-A4 (1986)

ARSENAULT, ROBIN. Hα Velocity Widths in Giant Extragalactic H II Regions. *Jean-René Roy, Robin Arsenault, & Gilles Joncas.* 300, 624, 10-A2 (1986)

The Hα Velocity Widths of Giant H II Regions as Distance Indicators. *Jean-René Roy & Robin Arsenault.* 302, 579, 37-A1 (1986)

ARTYMOWICZ, PAWEL. Radiation Pressure Forces on Particles in the Beta Pictoris System. *Pawel Artymowicz.* 335, L79, 185-E1 (1988)

The Structure of the Beta Pictoris Circumstellar Disk From Combined *IRAS* and Coronagraphic Observations. *Pawel Artymowicz, Christopher Burrows, & Francesco Paresce.* 337, 494, 23-F1 (1989)

ASAOKA, IKUKO. Hard X-Ray Emission from the Carina Nebula. *Katsuji Koyama, Ikuko Asaoka, Naoko Ushimaru, Shigeo Yamauchi, & Robin H. D. Corbet.* 362, 215, 171-G3 (1990)

ASCHWANDEN, M. J. On the Electron-Cyclotron Maser Instability. I. Quasi-linear Diffusion in the Loss Cone. *M. J. Aschwanden & A. O. Benz.* 332, 447, 128-A9 (1988)

On the Electron-Cyclotron Maser Instability. II. Pulsations in the Quasi-stationary State. *M. J. Aschwanden & A. O. Benz.* 332, 466, 128-C1 (1988)

ASHE, GREGORY A. Steady State Cooling Flow Models with Gas Loss for Normal Elliptical Galaxies. *Craig L. Sarazin & Gregory A. Ashe.* 345, 22, 149-C6 (1989)

ASHLEY, MICHAEL C. B. Detection of Highly Ionized Silicon in the Planetary Nebulae NGC 6302 and NGC 6537. *Michael C. B. Ashley & A. R. Hyland.* 331, 532, 112-C10 (1988)

ASHMAN, KEITH M. The Origin of the Mass, Disk-to-Halo Mass Ratio, and *L*-*V* Relation of Spiral Galaxies. *Keith M. Ashman.* 359, 15, 134-C7 (1990)

ASHOK, N. M. The Initial Mass Function in the Rho Ophiuchi Cluster. *G. H. Rieke, N. M. Ashok, & R. P. Boyle.* 339, L71, 66-D1 (1989)

ASHOKA, B. N. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

ASPIN, C. The Exciting Star in G35.2N. *D. M. Walther, C. Aspin, & I. S. McLean.* 356, 544, 107-A11 (1990)

ASPIN, COLIN. He 2–104: A Symbiotic Proto–Planetary Nebula? *Hugo E. Schwarz, Colin Aspin, & Julie H. Lutz.* 344, L29, 140-C8 (1989)

Infrared Images of Ionized and Molecular Hydrogen Emission in S106. *Saeko S. Hayashi, Tetsuo Hasegawa, Masuo Tanaka, Masahiko Hayashi, Colin Aspin, Ian S. McLean, Peter W. J. L. Brand, & Ian Gatley.* 354, 242, 77-B2 (1990)

ASSIS, ALTAIR S. Cerenkov Damping of Surface Waves. *Altair S. Assis & J. Busnardo-Neto.* 323, 399, 157-D10 (1987)

Current Generation in Extragalactic Jets by Cerenkov Damping of Magnetohydrodynamic Waves. *Luiz C. Jafelice, Reuven Opher, Altair S. Assis, & José Busnardo-Neto.* 348, 61, 1-G2 (1990)

ATHANASSOULA, E. Nonlinear Coupling of Galactic Spiral Modes. *M. Tagger, J.-F. Sygnet, E. Athanassoula, & R. Pellat.* 318, L43, 92-B4 (1987)

ATHAY, R. G. The Origin of Solar He II Radiation. *R. G. Athay.* 329, 482, 80-D7 (1988)

Temperature and Center-Limb Variations of Transition Region Velocities. *R. G. Athay & K. P. Dere.* 346, 514, 172-E4 (1989)

ATHAY, R. GRANT. Magnetic Shear. III. Hale Region 17255. *R. Grant Athay, H. P. Jones, & H. Zirin.* 303, 877, 52-B5 (1986)

Magnetic Shear. IV. Hale Regions 16740, 16815, and 16850. *R. Grant Athay, J. A. Klimchuk, H. P. Jones, & H. Zirin.* 303, 884, 52-C6 (1986)

Radiation Loss Rates in Lyman Alpha for Solar Conditions. *R. Grant Athay.* 308, 975, 119-F1 (1986)

The Magnetic and Velocity Structure Adjacent to Solar Active Regions. *R. Grant Athay & J. A. Klimchuk.* 318, 437, 83-F7 (1987)

Chromospheric and Coronal Heating. *Lawrence S. Anderson & R. Grant Athay.* 336, 1089, 16-A5 (1989)

Model Solar Chromosphere with Prescribed Heating. *Lawrence S. Anderson & R. Grant Athay.* 346, 1010, 179-F1 (1989)

Bifurcation in the Low Chromosphere. *R. Grant Athay & K. P. Dere.* 358, 710, 132-D3 (1990)

A Model of the Solar Chromosphere-Corona Transition Region Based on Classical Thermal Conduction. *R. Grant Athay.* 362, 364, 173-F1 (1990)

ATHERTON, P. Detailed Study of the Barred Spiral Galaxy NGC 4027. II. Internal Kinematics. *W. D. Pence, K. Taylor, K. C. Freeman, G. de Vaucouleurs, & P. Atherton.* 326, 564, 39-F6 (1988)

Photometry and Gas Kinematics of the Spiral Galaxy NGC 1566. *W. D. Pence, K. Taylor, & P. Atherton.* 357, 415, 117-F11 (1990)

ATMANSPACHER, H. Deterministic Chaos in Accreting Systems: Analysis of the X-Ray Variability of Herculis X-1. *W. Voges, H. Atmanspacher, & H. Scheingraber.* 320, 794, 118-D10 (1987)

A Discrete-Time Model for Inhomogeneous Spherical Accretion onto Neutron Stars. *V. Demmel, G. Morfill, & H. Atmanspacher.* 354, 616, 84-A1 (1990)

ATTEIA, J.-L. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806–20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

ATTRIDGE, JOANNE M. A Catalog of Observations for Stellar Masers. *Priscilla J. Benson, Irene R. Little-Marenin, Tara C. Woods, Joanne M. Attridge, Kristin A. Blais, Dana B. Rudolph, Myra E. Rubiera, & Heidi L. Keefe.* 74, 911, 44-B7 (1990)

ATWOOD, B. High-Redshift QSO Absorbing Clouds and the Background Ionizing Source. *R. F. Carswell, J. K. Webb, J. A. Baldwin, & B. Atwood.* 319, 709, 102-F13 (1987)

AUDOUZE, J. The G-Dwarf Problem and the Closed-Box Models of Galactic Evolution. *P. François, E. Vangioni-Flam, & J. Audouze.* 361, 487, 164-B7 (1990)

AUDOUZE, JEAN. Evolution of Fe, *r*, and *s* Elements in Our Galaxy. *Paola Andreani, Elisabeth Vangioni-Flam, & Jean Audouze.* 334, 698, 164-B1 (1988)

Primordial Lithium and Galactic Chemical Evolution. *Jean Audouze & Joseph Silk.* 342, L5, 109-A10 (1989)

The Evolution of ^{9}Be. *Elisabeth Vangioni-Flam, Michel Cassé, Jean Audouze, & Yvette Oberto.* 364, 568, 203-B12 (1990)

AUER, L. H. Atmospheric Eclipses in the SMC Wolf-Rayet Eclipsing Binary HD 5980: The Heavy versus the Light Metal Abundance. *G. Koenigsberger, A. F. J. Moffat, & L. H. Auer.* 322, L41, 145-C12 (1987)

AUER, LAWRENCE H. *IUE* Observations of Wolf-Rayet Binary Systems in the Small Magellanic Cloud. *Anthony F. J. Moffat, Gloria Koenigsberger, & Lawrence H. Auer.* 344, 734, 143-D10 (1989)

AUFDERHEIDE, M. B. Electron Capture and β-Decay in Presupernova Stars. *M. B. Aufderheide, G. E. Brown, T. T. S. Kuo, D. B. Stout, & P. Vogel.* 362, 241, 172-B9 (1990)

AUGASON, GORDON C. An Opacity-sampled Treatment of Water Vapor. *David R. Alexander, Gordon C. Augason, & Hollis R. Johnson.* 345, 1014, 163-B8 (1989)

AUGENSEN, HARRY J. Mass Distribution and Evolutionary Scheme for Central Stars of Planetary Nebulae. *Sara R. Heap & Harry J. Augensen.* 313, 268, 17-G10 (1987)

AUGUSTEIJN, T. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

AUMAN, JASON R. A Photometric Catalog of Compact Groups of Galaxies. *Paul Hickson, Enrico Kindl, & Jason R. Auman.* 70, 687, 29-B1 (1989)

AUMANN, HARTMUT H. *IRAS* Constraints on a Cold Cloud around the Solar System. *Hartmut H. Aumann & John C. Good.* 350, 408, 30-A7 (1990)

AURIÈRE, MICHEL. Measurement of the Vela Pulsar's Proper Motion and Detection of the Optical Counterpart of Its Compact X-Ray Nebula. *Hakki Ögelman, Lydie Koch-Miramond, & Michel Auriére.* 342, L83, 117-D13 (1989)

AUSTIN, SAM M. Radiative Alpha-Capture Rates Leading to $A = 7$ Nuclei: Applications to the Solar Neutrino Problem and Big Bang Nucleosynthesis. *Toshitaka Kajino, Hiroshi Toki, & Sam M. Austin.* 319, 531, 99-A12 (1987)

Radiative Alpha-Capture Rates Leading to $A = 7$ Nuclei: Applications to the Solar Neutrino Problem and Big Bang Nucleosynthesis: Erratum. *Toshitaka Kajino, Hiroshi Toki, & Sam M. Austin.* 327, 1060, 60-D11 (1988) (Orig. paper in 319, 531, 99-A12 (1987))

AVERY, L. W. Submillimeter Wavelength Molecular Spectroscopy of the Orion Molecular Cloud. *Glenn J. White, L. W. Avery, K. J. Richardson, & J. C. G. Lesurf.* 302, 701, 38-C9 (1986)

The C_3H_2 2_{20}–2_{11} Transition: Absorption in Cold Dark Clouds. *H. E. Matthews, S. C. Madden, L. W. Avery, & W. M. Irvine.* 307, L69, 107-D6 (1986)

Detection of Deuterated Cyclopropenylidene (C_3HD) in TMC-1. *M. B. Bell, P. A. Feldman, H. E. Matthews, & L. W. Avery.* 311, L89, 160-F2 (1986)

Observations of Globules and Dark Clouds in the CO $J = 3$–2 and $J = 2$–1 Lines. *L. W. Avery, Glenn J. White, I. P. Williams, & N. Cronin.* 312, 848, 12-B13 (1987)

A Study of C_3HD in Cold Interstellar Clouds. *M. B. Bell, L. W. Avery, H. E. Matthews, P. A. Feldman, J. K. G. Watson, S. C. Madden, & W. M. Irvine.* 326, 924, 43-F2 (1988)

Collisional Rate Coefficients of C_3H_2 and the Determination of Physical Conditions in Molecular Clouds. *L. W. Avery & Sheldon Green.* 337, 306, 21-B8 (1989)

The Unusual Morphology of the High-Velocity Gas in L723: One Outflow or Two? *L. W. Avery, S. S. Hayashi, & Glenn J. White.* 357, 524, 119-B1 (1990)

AVILA, G. Na I Interstellar Absorption in the Direction of Two LMC Supergiants in the Field of SN 1987A. *P. Molaro, G. Vladilo, G. Avila, & S. D'Odorico.* 339, L63, 66-C7 (1989)

AVNI, Y. X-Ray Observations of the Bright Quasar Survey. *H. Tananbaum, Y. Avni, Richard F. Green, Maarten Schmidt, & G. Zamorani.* 305, 57, 67-E7 (1986)

X-Ray Properties of Optically Selected QSOs. *Y. Avni & H. Tananbaum.* 305, 83, 67-G5 (1986)

"Flux Conservations" by a Schwarzschild Gravitational Lens. *Y. Avni & I. Shulami.* 332, 113, 124-C11 (1988)

AVRETT, E. H. A New Sunspot Umbral Model and Its Variation with the Solar Cycle. *P. Maltby, E. H. Avrett, M. Carlsson, O. Kjeldseth-Moe, R. L. Kurucz, & R. Loeser.* 306, 284, 84-D9 (1986)

Mass Loss from FU Orionis Objects. *Ken Croswell, L. Hartmann, & E. H. Avrett.* 312, 227, 3-D6 (1987)

Energy Balance in the Solar Transition Region. I. Hydrostatic Thermal Models with Ambipolar Diffusion. *J. M. Fontenla, E. H. Avrett, & R. Loeser.* 355, 700, 97-C4 (1990)

AVRETT, EUGENE H. Mg I as a Probe of the Solar Chromosphere: The Atomic Model. *Pablo J. Mauas, Eugene H. Avrett, & Rudolf Loeser.* 330, 1008, 103-F1 (1988)

Radiative Transfer in the Broad Emission Line Regions of Quasi-stellar Objects. *Eugene H. Avrett & Rudolf Loeser.* 331, 211, 108-D1 (1988)

Chromospheric Structure of Cool Carbon Stars. *Donald G. Luttermoser, Hollis R. Johnson, Eugene H. Avrett, & Rudolf Loeser.* 345, 543, 155-G3 (1989)

Computed Profiles of the Solar C I Multiplets at 1561 and 1657 Å. *Pablo J. Mauas, Eugene H. Avrett, & Rudolf Loeser.* 345, 1104, 164-C1 (1989)

Winds from T Tauri Stars. I. Spherically Symmetric Models. *Lee Hartmann, Nuria Calvet, Eugene H. Avrett, & Rudolf Loeser.* 349, 168, 16-A8 (1990)

Flare Heating and Ionization of the Low Solar Chromosphere. I. Inversion Methods for Mg I $\lambda\lambda$4571 and 5173. *Thomas R. Metcalf, Richard C. Canfield, Eugene H. Avrett, & Frederic T. Metcalf.* 350, 463, 30-F1 (1990)

On Carbon Monoxide Cooling in the Solar Atmosphere. *Pablo J. Mauas, Eugene H. Avrett, & Rudolf Loeser.* 357, 279, 114-E3 (1990)

The White-Light Flare of 1982 June 15: Models. *Pablo J. D. Mauas, Marcos E. Machado, & Eugene H. Avrett.* 360, 715, 155-A9 (1990)

AVRON, YOSI. Considerations Regarding a Space Shuttle Measurement of the Gravitational Constant. *Yosi Avron & Mario Livio.* 304, L61, 66-C13 (1986)

AWAKI, H. X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)

Ginga Observations of X-Rays from the Seyfert I Galaxy Markarian 509. *K. P. Singh, N. J. Westergaard, H. W. Schnopper, H. Awaki, & Y. Tawara.* 363, 131, 183-F10 (1990)

AXFORD, W. I. Stability of a Cometary Ionosphere/Ionopause Determined by Ion-Neutral Friction. *A. I. Ershkovich, J. F. McKenzie, & W. I. Axford.* 344, 932, 145-F2 (1989)

Stability of a Cometary Ionosphere/Ionopause Including Pressure Effects. *J. F. McKenzie, A. I. Ershkovich, & W. I. Axford.* 360, 275, 148-D5 (1990)

AXON, D. J. Radio Lobes and [O III] Profile Substructure in Seyfert Galaxies. *M. Whittle, A. Pedlar, E. J. A. Meurs, S. W. Unger, D. J. Axon, & M. J. Ward.* 326, 125, 33-D8 (1988)

Michigan 160: Internal Kinematics and the Cosmic Distance Scale. *L. Staveley-Smith, J. Bland, D. J. Axon, R. D. Davies, & R. M. Sharples.* 364, 23, 194-C11 (1990)

AYERS, G. R. Speckle Observations of the Central Region of NGC 4151. *G. R. Ayers, J. Benson, K. Carels, H. M. Dyck, & E. Spillar.* 360, 471, 152-B9 (1990)

AYMON, JON. Measurement of the Intensity of the Cosmic Background Radiation at 3.7 GHz. *Giovanni De Amici, George F. Smoot, Jon Aymon, Marco Bersanelli, Al Kogut, Steven M. Levin, & Chris Witebsky.* 329, 556, 82-F8 (1988)

AYRES, T. R. Ultraviolet, Optical, Infrared, and Microwave Observations of HR 5110. *I. R. Little-Marenin, Theodore Simon, T. R.*

Ayres, N. L. Cohen, P. A. Feldman, J. L. Linsky, S. J. Little, & R. Lyons. 303, 780, 51-B1 (1986)
Far-Ultraviolet Fluorescence of Carbon Monoxide in the Red Giant Arcturus. II. Analysis of High-Dispersion *IUE* Spectra. *T. R. Ayres.* 308, 246, 110-F12 (1986)
High-Dispersion Observations of Alpha Bootis (K1 III) with the *International Ultraviolet Explorer*. *T. R. Ayres, P. Judge, C. Jordan, A. Brown, & J. L. Linsky.* 311, 947, 158-C1 (1986)
AYRES, THOMAS R. Fourier Transform Spectrometer Observations of Solar Carbon Monoxide. II. Simultaneous Cospatial Measurements of the Fundamental and First-Overtone Bands, and Ca II K, in Quiet and Active Regions. *Thomas R. Ayres, Larry Testerman, & James W. Brault.* 304, 542, 59-G5 (1986)
Redshifts of High Temperature Emission Lines in the Far-Ultraviolet Spectra of Late-Type Stars. II. New, Precise Measurements of Dwarfs and Giants. *Thomas R. Ayres, Eberhard Jensen, & Oddbjørn Engvold.* 66, 51, 2-A5 (1988)
A Spectral Dissection of the Ultraviolet Emissions of Capella. *Thomas R. Ayres.* 331, 467, 111-E1 (1988)
Non–LTE CO Revisited. *Thomas R. Ayres & Gunter R. Wiedemann.* 338, 1033, 46-E10 (1989)
Fourier Transform Spectrometer Observations of Solar Carbon Monoxide. III. Time-resolved Spectroscopy of the $\Delta v = 1$ Bands. *Thomas R. Ayres & James W. Brault.* 363, 705, 192-G5 (1990)
AZZOPARDI, MARC. The Kinematics of the Small Magellanic Cloud from Its Field Carbon Stars. *Eduardo Hardy, Nicholas B. Suntzeff, & Marc Azzopardi.* 344, 210, 135-E10 (1989)

BAADE, DIETRICH. Observations of the Nebulosities near SN 1987A. *E. Joseph Wampler, Lifan Wang, Dietrich Baade, Klaus Banse, Sandro D'Odorico, Christian Gouiffes, & Massimo Tarenghi.* 362, L13, 174-B9 (1990)
BAAN, W. A. The Leo Triplet Spiral Galaxy NGC 3628. I. VLA Observations of the Neutral Hydrogen Absorption. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 315, 492, 46-B3 (1987)
The Leo Triplet Spiral Galaxy NGC 3628. II. VLA Observations of the Hydroxyl Absorption. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 320, 145, 109-E11 (1987)
The Megamaser Galaxy Markarian 273. I. VLA Observations of the Hydroxyl Emission. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 321, 225, 124-F6 (1987)
The Megamaser Galaxy Markarian 273. II. VLA Observations of the Neutral Hydrogen Absorption. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 329, 142, 76-E7 (1988)
VLBI Observations of the OH Megamaser in IC 4553 (Arp 220). *P. J. Diamond, R. P. Norris, W. A. Baan, & R. S. Booth.* 340, L49, 83-B1 (1989)
VLBI Observations of the Water Vapor Maser in the Nucleus of NGC 3079. *A. D. Haschick, W. A. Baan, M. H. Schneps, M. J. Reid, J. M. Moran, & R. Güsten.* 356, 149, 100-G9 (1990)
BAAN, WILLEM A. Formaldehyde Absorption and Maser Emission in Galaxies. *Willem A. Baan, Rolf Güsten, & Aubrey D. Haschick.* 305, 830, 78-A8 (1986)
The Peculiar Galaxy IC 4553. II. VLA Observations of the Neutral Hydrogen. *Willem A. Baan, J. H. van Gorkom, Joan T. Schmelz, & I. Félix Mirabel.* 313, 102, 16-B7 (1987)
The 18 Centimeter OH Emission of IC 4553 (Arp 220). *Willem A. Baan & Aubrey D. Haschick.* 318, 139, 80-D10 (1987)
Zw 15107+0724 and the Family of OH Megamasers. *Willem A. Baan, Christian Henkel, & Aubrey D. Haschick.* 320, 154, 109-F6 (1987)
The Infrared Color Evolution of Active Nuclei. *Willem A. Baan.* 330, 743, 100-F1 (1988)
Infrared Properties of OH Galaxies. *Willem A. Baan.* 338, 804, 44-A1 (1989)
The Detection of the 4_{-1}–3_0 *E* Transition of Methanol at 36.2 GHz toward Hot H II Regions. *Aubrey D. Haschick & Willem A. Baan.* 339, 949, 63-D10 (1989)
Detection of Three New Methanol Maser Transitions toward Star-forming Regions. *Aubrey D. Haschick, Willem A. Baan, & Karl M. Menten.* 346, 330, 170-C1 (1989)
Molecular Outflows in Powerful OH Megamasers. *Willem A. Baan, Aubrey D. Haschick, & Christian Henkel.* 346, 680, 175-G6 (1989)
High-Density Molecular Gas in External Galaxies: Formaldehyde and Carbon Monosulfide. *Willem A. Baan, Christian Henkel, Peter Schilke, Rainer Mauersberger, & Rolf Güsten.* 353, 132, 63-G1 (1990)
Detection of Widespread Strong Methanol Masers at 44 GHz. *Aubrey D. Haschick, Karl M. Menten, & Willem A. Baan.* 354, 556, 83-C4 (1990)
Periodic Variations of the Extragalactic H_2O Maser in NGC 4258. *Aubrey D. Haschick & Willem A. Baan.* 355, L23, 92-C6 (1990)
H I Absorption and OH Emission in IC 694/NGC 3690. *Willem A. Baan & Aubrey Haschick.* 364, 65, 194-G1 (1990)
BAAS, F. New Emission Features in the Infrared Spectra of Two IRAS Sources. *M. de Muizon, T. R. Geballe, L. B. d'Hendecourt, & F. Baas.* 306, L105, 94-B11 (1986)
Spectroscopy of the 3.4 Micron Emission Feature in Comet Halley. *F. Baas, T. R. Geballe, & D. M. Walther.* 311, L97, 160-F10 (1986)
BÅÅTH, L. B. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)
BÅÅTH, LARS B. Protostellar Condensations within the Orion Ridge. *Lee G. Mundy, Nicholas Z. Scoville, Lars B. Bååth, Colin R. Masson, & David P. Woody.* 304, L51, 66-C2 (1986)
High-Resolution Images of the Orion Molecular Ridge in the CS $J = 2$–1 Transition. *Lee G. Mundy, T. J. Cornwell, Colin R. Masson, Nicholas Z. Scoville, Lars B. Bååth, & Lars E. B. Johansson.* 325, 382, 23-D3 (1988)
BABU, GUTTI JOGESH. Linear Regression in Astronomy. I. *Takashi Isobe, Eric D. Feigelson, Michael G. Akritas, & Gutti Jogesh Babu.* 364, 104, 195-C7 (1990)
BABUL, ARIF. Gamma-Ray Bursts from Superconducting Cosmic Strings at Large Redshifts. *Arif Babul, Bohdan Paczyński, & David Spergel.* 316, L49, 62-A9 (1987)
Model Atmospheres of Near-Eddington Limit X-Ray Bursters. *Arif Babul & Bohdan Paczyński.* 323, 582, 161-B5 (1987)
Self-consistent Spherical Accretion Shocks around Black Holes. *Arif Babul, Jeremiah P. Ostriker, & P. Mészáros.* 347, 59, 182-G1 (1989)
Lyα Clouds: Isolated Structures in Cold Dark Matter Cosmogony? *Arif Babul.* 349, 429, 20-E6 (1990)
IRAS Galaxies and the Large-Scale Structure in the CfA Slice. *Arif Babul & Marc Postman.* 359, 280, 139-E4 (1990)
BACHILLER, R. The Molecular Envelope of Mira. *P. Planesas, R. Bachiller, J. Martín-Pintado, & V. Bujarrabal.* 351, 263, 41-C7 (1990)
Asymmetric Outflow in the Molecular Envelope of Mira. *P. Planesas, J. D. P. Kenney, & R. Bachiller.* 364, L9, 199-B8 (1990)
BACHILLER, RAFAEL. Large-Scale Interaction of the Outflow and Quiescent Gas in Orion. *Jesús Martín-Pintado, Arturo Rodríguez-Franco, & Rafael Bachiller.* 357, L49, 121-E3 (1990)
BACKER, D. C. VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)
Period Derivative of the Millisecond Pulsar in Globular Cluster M28. *R. S. Foster, D. C. Backer, J. H. Taylor, & W. M. Goss.* 326, L13, 38-B5 (1988)
Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)
A Fast-moving Knot of Radio Emission in the Active Galaxy NGC 1275. *J. M. Marr, D. C. Backer, M. C. H. Wright, A. C. S. Readhead, & R. Moore.* 337, 671, 27-D1 (1989)
The Large Scattering Disk of NGC 6334B. *J. M. Moran, L. F. Rodríguez, B. Greene, & D. C. Backer.* 348, 147, 2-G4 (1990)
Timing Properties of PSR 1951+32 in the CTB 80 Supernova Remnant. *R. S. Foster, D. C. Backer, & A. Wolszczan.* 356, 243, 102-B3 (1990)
Constructing a Pulsar Timing Array. *R. S. Foster & D. C. Backer.* 361, 300, 160-F1 (1990)

BACKER, DONALD C. A Survey of 12.2 GHz Methanol Masers and Their Polarization Properties. *Bon-Chul Koo, David R. W. Williams, Carl Heiles, & Donald C. Backer.* 326, 931, 43-F9 (1988)

BACKHOUSE, C. J. Four Year Modulation of Periodic Radio Outbursts from LSI +61°303. *P. C. Gregory, Huang-Jian Xu, C. J. Backhouse, & A. Reid.* 339, 1054, 64-F5 (1989)

BACKMAN, D. E. *IRAS* Observations of R Coronae Borealis—Detection and Study of a Fossil Shell. *F. C. Gillett, D. E. Backman, C. Beichman, & G. Neugebauer.* 310, 842, 143-B6 (1986)

Far-Infrared Properties of Flare Stars and dM Stars. *D. J. Mullan, R. E. Stencel, & D. E. Backman.* 343, 400, 123-A11 (1989)

BACKUS, C. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

BÄUERLE, G. G. A. High-Frequency Perturbations and Gravitational Collapse in Gravity Theory Coupled with a Higgs Field. *R. J. Slagter & G. G. A. Bäuerle.* 307, 20, 95-B12 (1986)

BAGARE, S. P. Chromospheric Ca II K-Line Variations in the Sun as a Star over a Solar Cycle. *K. R. Sivaraman, Jagdev Singh, S. P. Bagare, & S. S. Gupta.* 313, 456, 20-A6 (1987)

BAGGETT, W. E. The Activity, Variability, and Rotation of Lower Main-Sequence Hyades Stars. *Richard R. Radick, D. T. Thompson, G. W. Lockwood, D. K. Duncan, & W. E. Baggett.* 321, 459, 127-B10 (1987)

BAGOLY, Z. Cosmological Constraints on the Clustering of X-Ray Background Sources. *Z. Bagoly, A. Mészáros, & P. Mészáros.* 333, 54, 138-E6 (1988)

Magnetized Neutron Stars as Gamma-Ray Bursters: Detection Rates at High Energies. *P. Mészáros, Z. Bagoly, & H. Riffert.* 337, L23, 25-C1 (1989)

High-Energy Gamma-Ray Absorption in Relativistic Magnetospheres. *H. Riffert, P. Mészáros, & Z. Bagoly.* 340, 443, 72-F8 (1989)

Magnetic Field Distribution in Polar Cap Models of Gamma-Ray Bursters. *Z. Bagoly, P. Mészáros, & S. M. Matz.* 359, 438, 141-D12 (1990)

BAHCALL, J. N. Is Solar Neutrino Capture Rate Correlated with Sunspot Number? *J. N. Bahcall, G. B. Field, & W. H. Press.* 320, L69, 114-F1 (1987)

The Magnitude of ^{3}He Diffusion in the Sun. *A. Loeb, J. N. Bahcall, & M. Milgrom.* 341, 1108, 98-G9 (1989)

Mixing and the Solar Neutrino Problem. *R. Sienkiewicz, J. N. Bahcall, & B. Paczyński.* 349, 641, 23-C1 (1990)

BAHCALL, JOHN N. Wide Binaries in the Direction of Andromeda. *John N. Bahcall, Burton F. Jones, & Kavan U. Ratnatunga.* 60, 939, 14-G7 (1986)

Kinematics and Density of the Galactic Spheroid. *John N. Bahcall & Stefano Casertano.* 308, 347, 111-G5 (1986)

Dust Distribution in Spiral Galaxies. *Nikolaos D. Kylafis & John N. Bahcall.* 317, 637, 73-A13 (1987)

An Analysis of the Yale Bright Star Catalog. *John N. Bahcall, Stefano Casertano, & Kavan U. Ratnatunga.* 320, 515, 115-B10 (1987)

Kinematic Modeling of the Galaxy. I. The Yale Bright Star Catalogue. *Kavan U. Ratnatunga, John N. Bahcall, & Stefano Casertano.* 339, 106, 51-D1 (1989)

Kinematic Modeling of the Galaxy. II. Two Samples of High Proper-Motion Stars. *Stefano Casertano, Kavan U. Ratnatunga, & John N. Bahcall.* 357, 435, 118-A7 (1990)

Element Diffusion in Stellar Interiors. *John N. Bahcall & Abraham Loeb.* 360, 267, 148-C10 (1990)

BAHCALL, NETA A. Are Superclusters Correlated on a Very Large Scale? *Neta A. Bahcall & William S. Burgett.* 300, L35, 13-B10 (1986)

The Difference between the Galaxy and Cluster Correlation Functions: A Manifestation of Tails of Galaxy Clusters. *Neta A. Bahcall.* 302, L41, 40-D5 (1986)

Peculiar Velocity and Geometrical Elongation of Large-Scale Structures. *Neta A. Bahcall, Raymond M. Soneira, & William S. Burgett.* 311, 15, 146-B8 (1986)

The Correlation Function of Southern Clusters. *Neta A. Bahcall, David J. Batuski, & Ron P. Olowin.* 333, L13, 144-B6 (1988)

The Distribution of Clusters in the Southern ACO Catalog. *David J. Batuski, Neta A. Bahcall, Ronald P. Olowin, & Jack O. Burns.* 341, 599, 92-F1 (1989)

Is the Universe Filled with Bubbles? *Neta A. Bahcall, Mark J. Henriksen, & T. Ed Smith.* 346, L45, 181-A10 (1989)

BAHCALL, SAFI. New Models for Neutron Stars. *Safi Bahcall, Bryan W. Lynn, & Stephen B. Selipsky.* 362, 251, 172-C7 (1990)

BAHCALL, SAFI R. Evolutionary Corrections to the Redshift-Volume Measurement of the Density Parameter. *Safi R. Bahcall & Scott Tremaine.* 326, L1, 38-A4 (1988)

BAI, T. Two Classes of Gamma-Ray/Proton Flares: Impulsive and Gradual. *T. Bai.* 308, 912, 119-A3 (1986)

Periodicities of the Flare Occurrence Rate in Solar Cycle 19. *T. Bai.* 318, L85, 92-E6 (1987)

A 154 Day Periodicity in the Occurrence Rate of Proton Flares. *T. Bai & E. W. Cliver.* 363, 299, 185-G6 (1990)

BAI, TAEIL. Distribution of Flares on the Sun: Superactive Regions and Active Zones of 1980–1985. *Taeil Bai.* 314, 795, 38-C9 (1987)

Distribution of Flares on the Sun during 1955–1985: "Hot Spots" (Active Zones) Lasting for 30 Years. *Taeil Bai.* 328, 860, 72-E11 (1988)

Directionality of Continuum Gamma Rays from Solar Flares. *Taeil Bai.* 334, 1049, 168-B2 (1988)

Solar "Hot Spots" Are Still Hot. *Taeil Bai.* 364, L17, 199-C7 (1990)

BAIERLEIN, R. Shock-Front Compression of the Magnetic Field in the Canis Major R1 Star Formation Region. *F. J. Vrba, R. Baierlein, & W. Herbst.* 317, 207, 66-C4 (1987)

BAILES, M. The Proper Motion of the Vela Pulsar. *M. Bailes, R. N. Manchester, M. J. Kesteven, R. P. Norris, & J. E. Reynolds.* 343, L53, 132-C5 (1989)

BAILES, MATTHEW. The Origin of Pulsar Velocities and the Velocity–Magnetic Moment Correlation. *Matthew Bailes.* 342, 917, 113-F1 (1989)

BAILEY, J. A. Hα Emission Lines in High-Redshift Quasars. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 342, 666, 110-G3 (1989)

Hα Emission Lines in High-Redshift Quasars: Erratum. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 354, 763, 85-F11 (1990) (Orig. paper in 342, 666, 110-G3 (1989))

BAILEY, JEREMY. EXO 033319−2554.2: An Eclipsing AM Herculis System Showing Cyclotron Emission Features. *Lilia Ferrario, D. T. Wickramasinghe, Jeremy Bailey, I. R. Tuohy, & J. H. Hough.* 337, 832, 29-C7 (1989)

A 56 MG Field at the Second Pole in VV Puppis. *D. T. Wickramasinghe, Lilia Ferrario, & Jeremy Bailey.* 342, L35, 109-C12 (1989)

BAILYN, C. D. Discovery of a Possible X-Ray Triple: 4U 1915−05. *J. E. Grindlay, C. D. Bailyn, H. Cohn, P. M. Lugger, J. R. Thorstensen, & G. Wegner.* 334, L25, 161-C9 (1988)

Four X-Ray–selected Cataclysmic Variables in the Galactic Plane. *P. Hertz, C. D. Bailyn, J. E. Grindlay, M. R. Garcia, H. Cohn, & P. M. Lugger.* 364, 251, 197-B8 (1990)

BAILYN, CHARLES D. Compact X-Ray Binaries in Hierarchical Triples. I. Tidal Angular Momentum Loss and GX 17+2. *Charles D. Bailyn & Jonathan E. Grindlay.* 312, 748, 11-B4 (1987)

On the Evolution of Tidal Capture X-Ray Binaries: 4U 2127+12 (M15) to 4U 1820−30 (NGC 6624). *Charles D. Bailyn & Jonathan E. Grindlay.* 316, L25, 56-C3 (1987)

Compact X-Ray Binaries in Hierarchical Triples. II. Separation of the Inner Binary. *Charles D. Bailyn.* 317, 737, 74-B3 (1987)

CCD Photometry of Globular Cluster Core Structure. I. NGC 6388, NGC 6624, and M15—One Flat Core and Two Cusps. *Phyllis M. Lugger, Haldan Cohn, Jonathan E. Grindlay, Charles D. Bailyn, & Paul Hertz.* 320, 482, 114-F8 (1987)

Color Maps of X-Ray Globular Clusters. *Charles D. Bailyn, Jonathan E. Grindlay, Haldan Cohn, & Phyllis M. Lugger.* 331, 303, 109-D10 (1988)

The Formation of Hierarchical Triple Systems by Single-Star–Binary Encounters. *Charles D. Bailyn.* 341, 175, 86-B3 (1989)

Is 4U 2129+47 (= V1727 Cygni) a Triple System? *Michael R. Garcia, Charles D. Bailyn, Jonathan E. Grindlay, & Lawrence A. Molnar.* 341, L75, 100-A5 (1989)

Outflow from the Outer Lagrangian Point: Observations and Models of 4U 2127+12 in M15. *Charles D. Bailyn, Michael R. Garcia, & Jonathan E. Grindlay.* 344, 786, 144-A10 (1989)

Constraints on Cataclysmic Variable Evolution from the Triple System 4 Draconis. *Peter P. Eggleton, Charles D. Bailyn, & Christopher A. Tout.* 345, 489, 155-B11 (1989)

On the Origin of Hot Subdwarfs in Globular Clusters. *Charles D. Bailyn & Icko Iben, Jr.* 347, L21, 189-C9 (1989)

Neutron Stars and Millisecond Pulsars from Accretion-induced Collapse in Globular Clusters. *Charles D. Bailyn & Jonathan E. Grindlay.* 353, 159, 64-B5 (1990)

Does Tidal Capture Produce Cataclysmic Variables? *Charles D. Bailyn, Jonathan E. Grindlay, & Michael R. Garcia.* 357, L35, 121-C7 (1990)

BAINES, KEVIN H. D/H for Uranus and Neptune. *Wm. Hayden Smith, W. V. Schempp, J. Simon, & Kevin H. Baines.* 336, 962, 14-D9 (1989)

The D/H Ratio for Jupiter. *Wm. Hayden Smith, W. V. Schempp, & Kevin H. Baines.* 336, 967, 14-E1 (1989)

Limits on the Diurnal Variation of H_2 Quadrupole Features in Neptune. *Wm. Hayden Smith, W. V. Schempp, & Kevin H. Baines.* 343, 450, 123-E13 (1989)

BAJAJA, E. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

BAJTLIK, S. 2.7 K Radiation and the Isotropy of the Universe. *S. Bajtlik, R. Juszkiewicz, M. Prószyński, & P. Amsterdamski.* 300, 463, 8-C1 (1986)

BAJTLIK, STANISLAW. Quasar Ionization of Lyman-Alpha Clouds: The Proximity Effect, a Probe of the Ultraviolet Background at High Redshift. *Stanislaw Bajtlik, Robert C. Duncan, & Jeremiah P. Ostriker.* 327, 570, 55-A3 (1988)

Clustering and Voids in the Lyman-Alpha Forest. *Jeremiah P. Ostriker, Stanislaw Bajtlik, & Robert C. Duncan.* 327, L35, 61-A11 (1988)

Voids in the Lyα Forest. *Robert C. Duncan, Jeremiah P. Ostriker, & Stanislaw Bajtlik.* 345, 39, 149-D12 (1989)

BAKER, D. N. The Collective Emission of Electromagnetic Waves from Astrophysical Jets: Luminosity Gaps, BL Lacertae Objects, and Efficient Energy Transport. *D. N. Baker, Joseph E. Borovsky, Gregory Benford, & Jean A. Eilek.* 326, 110, 33-C7 (1988)

BAKER, R. E. Hard X-Ray Observations of Cygnus X-1 with the MISO Telescope. *F. Perotti, A. Della Ventura, G. Villa, L. Bassani, R. C. Butler, G. Di Cocco, R. E. Baker, A. J. Dean, & C. G. Hanson.* 300, 297, 4-C12 (1986)

A Broad-Band Contemporaneous Study of the Seyfert Galaxy NGC 4151. *L. Bassani, R. C. Butler, G. Di Cocco, A. Della Ventura, F. Perotti, G. Villa, R. E. Baker, A. J. Dean, & T. J. Lee.* 311, 623, 154-F1 (1986)

BALACHANDRAN, SUCHITRA. Lithium in Lower–Main-Sequence Stars of the α Persei Cluster. *Suchitra Balachandran, David L. Lambert, & John R. Stauffer.* 333, 267, 141-A9 (1988)

Lithium Depletion and Rotation in Main-Sequence Stars. *Suchitra Balachandran.* 354, 310, 78-A2 (1990)

BALASUBRAHMANYAN, V. K. Measurement of the Cosmic-Ray Iron Spectrum between 60 and 200 GeV per Nucleon. *Joseph A. Esposito, Robert E. Streitmatter, V. K. Balasubrahmanyan, & Jonathan F. Ormes.* 351, 459, 45-G1 (1990)

BALBUS, STEVEN. Random Scattering Approach to Gravitational Microlensing. *Neal Katz, Steven Balbus, & Bohdan Paczyński.* 306, 2, 81-A7 (1986)

BALBUS, STEVEN A. Local Dynamic Thermal Instability. *Steven A. Balbus.* 303, L79, 53-E14 (1986)

Magnetized Thermal Conduction Fronts. *Steven A. Balbus.* 304, 787, 64-F11 (1986)

Star-Gas Density Waves in Spiral Galaxies. *Stephen H. Lubow, Steven A. Balbus, & Lennox L. Cowie.* 309, 496, 126-F2 (1986)

Local Interstellar Gasdynamical Stability and Substructure in Spiral Arms. *Steven A. Balbus.* 324, 60, 1-E10 (1988)

On Thermal Instability and Hydrostatic Equilibrium in Cooling Flows. *Steven A. Balbus.* 328, 395, 67-D1 (1988)

Theory of Local Thermal Instability in Spherical Systems. *Steven A. Balbus & Noam Soker.* 341, 611, 92-G1 (1989)

Radiative Magnetized Thermal Conduction Fronts. *Kazimierz J. Borkowski, Steven A. Balbus, & Carl C. Fristrom.* 355, 501, 94-F7 (1990)

Resonant Excitation of Internal Gravity Waves in Cluster Cooling Flows. *Steven A. Balbus & Noam Soker.* 357, 353, 117-A5 (1990)

BALCELLS, M. The Kinematics and Morphology of NGC 520. *S. A. Stanford & M. Balcells.* 355, 59, 87-F10 (1990)

BALCELLS, MARC. Interacting Binary Galaxies. V. NGC 4782/4783 (3C 278): Unbound Colliders, Not a Supermassive Pair. *Kirk D. Borne, Marc Balcells, & John G. Hoessel.* 333, 567, 146-C1 (1988)

Interacting Binary Galaxies. VI. The Fast Encounter of NGC 2672 and NGC 2673 (Karachentsev 175, Arp 167). *Marc Balcells, Kirk D. Borne, & John G. Hoessel.* 336, 655, 10-E10 (1989)

The Formation of Counterrotating Cores in Elliptical Galaxies. *Marc Balcells & P. J. Quinn.* 361, 381, 162-G10 (1990)

A Counterrotating Core in the Merger Remnant Candidate NGC 3656 (Arp 155). *Marc Balcells & S. A. Stanford.* 362, 443, 176-A5 (1990)

BALDWIN, J. A. Remarkable Emission-Line Profiles in the Seyfert Galaxy ESO 263–G13 (=F427). *A. S. Wilson & J. A. Baldwin.* 302, L7, 35-A7 (1986)

Kinematics and Ionization of Extended Gas in Active Galaxies. II. A Circumnuclear Starburst in the Type 1 Seyfert NGC 7469. *A. S. Wilson, J. A. Baldwin, Sze-Dung Sun, & A. E. Wright.* 310, 121, 133-C14 (1986)

Kinematics and Ionization of Extended Gas in Active Galaxies. III. The Extranuclear Properties of NGC 1068. *J. A. Baldwin, A. S. Wilson, & Mark Whittle.* 319, 84, 94-A3 (1987)

High-Redshift QSO Absorbing Clouds and the Background Ionizing Source. *R. F. Carswell, J. K. Webb, J. A. Baldwin, & B. Atwood.* 319, 709, 102-F13 (1987)

Ionized Gas and Radio Emission in the Barred Seyfert Galaxy NGC 5728. *Robert A. Schommer, Nelson Caldwell, A. S. Wilson, J. A. Baldwin, M. M. Phillips, T. B. Williams, & A. J. Turtle.* 324, 154, 2-F9 (1988)

QSOs with Narrow Emission Lines. *J. A. Baldwin, Richard McMahon, C. Hazard, & R. E. Williams.* 327, 103, 48-B5 (1988)

Kinematics and Ionization of Extended Gas in Active Galaxies. IV. The Seyfert 2 Galaxy NGC 4388. *Michael R. Corbin, J. A. Baldwin, & A. S. Wilson.* 334, 584, 162-G1 (1988)

Emission-Line Properties of Optically and Radio-selected Complete Quasar Samples. *J. A. Baldwin, E. Joseph Wampler, & C. Martin Gaskell.* 338, 630, 41-G1 (1989)

Kinematics and Ionization of Extended Gas in Active Galaxies. V. The Seyfert Galaxy NGC 5548. *A. S. Wilson, Xuening Wu, T. M. Heckman, J. A. Baldwin, & B. Balick.* 339, 729, 60-G7 (1989)

BALDWIN, JACK A. The Emission-Line Regions in Broad Absorption Line Quasars. *George F. Hartig & Jack A. Baldwin.* 302, 64, 28-F3 (1986)

BALFOUR, WALTER J. The Near-Infrared Spectrum of the FeH Molecule. *John G. Phillips, Sumner P. Davis, Bo Lindgren, & Walter J. Balfour.* 65, 721, 39-F2 (1987)

BALIAN, ROGER. Galaxies: Fractal Dimensions, Counts in Cells, and Correlations. *Roger Balian & Richard Schaeffer.* 335, L43, 185-B1 (1988)

BALICK, B. On the Nature of QSO Host Galaxies. *Eric P. Smith, T. M. Heckman, G. D. Bothun, W. Romanishin, & B. Balick.* 306, 64, 81-G6 (1986)

Galaxy Collisions and Mergers: The Genesis of Very Powerful Radio Sources? *T. M. Heckman, Eric P. Smith, Stefi A. Baum, W. J. M. van Breugel, G. K. Miley, G. D. Illingworth, G. D. Bothun, & B. Balick.* 311, 526, 153-D2 (1986)

Kinematics and Ionization of Extended Gas in Active Galaxies. V. The Seyfert Galaxy NGC 5548. *A. S. Wilson, Xuening Wu, T. M. Heckman, J. A. Baldwin, & B. Balick.* 339, 729, 60-G7 (1989)

BALICK, BRUCE. A Soft X-Ray Flare in the Seyfert 1 Galaxy Markarian 335. *M. G. Lee, Bruce Balick, J. P. Halpern, & T. M. Heckman.* 331, 154, 107-F10 (1988)

Molecules in NGC 6781 and Other Ringlike Planetary Nebulae. *B. Zuckerman, J. H. Kastner, Bruce Balick, & Ian Gatley.* 356, L59, 110-C10 (1990)

BALIUNAS, S. L. Periodic Photospheric and Chromospheric Modulation in Alpha Orionis (Betelgeuse). *A. K. Dupree, S. L. Baliunas, E. F. Guinan, L. Hartmann, G. E. Nassiopoulos, & G. Sonneborn.* 317, L85, 78-D4 (1987)

BALIUNAS, SALLIE L. A Prescription for Period Analysis of Unevenly Sampled Time Series. *James H. Horne & Sallie L. Baliunas.* 302, 757, 39-A4 (1986)

Objective Characterization of Stellar Activity Cycles. I. Methods and Solar Cycle Analyses. *Ronald L. Gilliland & Sallie L. Baliunas.* 314, 766, 38-A6 (1987)

BALL, R. Molecular Spiral Structure in M51. *K. Y. Lo, R. Ball, C. R. Masson, T. G. Phillips, S. Scott, & D. P. Woody.* 317, L63, 78-B11 (1987)

Giant Molecular Clouds in M31. *S. N. Vogel, F. Boulanger, & R. Ball.* 321, L145, 137-D8 (1987)

Dynamical Models of the Barred Spiral Galaxy NGC 3992. *J. H. Hunter, Jr., R. Ball, J. M. Huntley, Martin N. England, & S. T. Gottesman.* 324, 721, 11-B14 (1988)

BALL, ROGER. Distribution and Kinematics of Neutral Hydrogen in the Barred Spiral Galaxy NGC 3359. *Roger Ball.* 307, 453, 101-E11 (1986)

Direct Imaging at 12 Microns of the Star-forming Region W51 IRS 2. *John Bally, John F. Arens, Roger Ball, Robert Becker, & John Lacy.* 323, L73, 158-F1 (1987)

BALLAGH, R. J. Approximate Formulation of Redistribution in the Lyα, Lyβ, Hα System. *J. Cooper, R. J. Ballagh, & I. Hubeny.* 344, 949, 145-G7 (1989)

BALLARD, D. The Origin of CS in Comet IRAS-Araki-Alcock 1983d. *W. M. Jackson, P. S. Butterworth, & D. Ballard.* 304, 515, 59-E6 (1986)

BALLESTER, G. E. Detection of Neutral Oxygen and Sulfur Emissions near Io Using *IUE*. *G. E. Ballester, H. W. Moos, P. D. Feldman, D. F. Strobel, M. E. Summers, J.-L. Bertaux, T. E. Skinner, M. C. Festou, & J. H. Lieske.* 319, L33, 100-D1 (1987)

BALLESTER, J. L. Atoms in Carbon Cages as a Source of Interstellar Diffuse Lines. *J. L. Ballester, P. R. Antoniewicz, & R. Smoluchowski.* 356, 507, 106-E8 (1990)

BALLET, J. *EXOSAT* Observations of the Kepler Supernova Remnant. *A. Smith, A. Peacock, M. Arnaud, J. Ballet, R. Rothenflug, & R. Rocchia.* 347, 925, 195-A9 (1989)

BALLY, J. No Molecular Gas Disk in S106. *M. Barsony, N. Z. Scoville, J. Bally, & M. J. Claussen.* 343, 212, 120-G4 (1989)

Phosphorus in the Dense Interstellar Medium. *B. E. Turner, T. Tsuji, J. Bally, M. Guélin, & J. Cernicharo.* 365, 569, 215-C9 (1990)

BALLY, JOHN. The Dust and Molecular Gas Cloud Surrounding a Planetary Nebula: NGC 7027. *Harley A. Thronson, Jr., & John Bally.* 300, 749, 11-D1 (1986)

Compact Radio Sources Associated with Molecular Outflows. *Ronald L. Snell & John Bally.* 303, 683, 50-A7 (1986)

Models of Molecular Cloud Cores. II. Multitransition Study of $C^{34}S$. *Lee G. Mundy, Ronald L. Snell, Neal J. Evans II, Paul F. Goldsmith, & John Bally.* 306, 670, 91-G9 (1986)

Molecules in Galaxies. III. The Virgo Cluster. *Antony A. Stark, G. R. Knapp, John Bally, Robert W. Wilson, Arno A. Penzias, & Harrison E. Rowe.* 310, 660, 141-B8 (1986)

Shocked Molecular Hydrogen and Jets in Star-forming Clouds. II. *Adair P. Lane & John Bally.* 310, 820, 142-G9 (1986)

CO Emission from Seyfert Galaxies: Further Observations. *Leo Blitz, Robert D. Mathieu, & John Bally.* 311, 142, 147-E9 (1986)

Filamentary Structure in the Orion Molecular Cloud. *John Bally, William D. Langer, Antony A. Stars, & Robert W. Wilson.* 312, L45, 14-B12 (1987)

Infrared Emission and Star Formation in Early-Type Galaxies. *Harley A. Thronson, Jr., & John Bally.* 319, L63, 107-D1 (1987)

Galactic Center Molecular Clouds. I. Spatial and Spatial Velocity Maps. *John Bally, Antony A. Stark, Robert W. Wilson, & Christian Henkel.* 65, 13, 28-B2 (1987)

Detection of Interstellar PN: The First Identified Phosphorus Compound in the Interstellar Medium. *B. E. Turner & John Bally.* 321, L75, 129-G11 (1987)

Properties of Evolved Mass-losing Stars in the Milky Way and Variations in the Interstellar Dust Composition. *Harley A. Thronson, Jr., William B. Latter, John H. Black, John Bally, & Perry Hacking.* 322, 770, 148-C5 (1987)

Direct Imaging at 12 Microns of the Star-forming Region W51 IRS 2. *John Bally, John F. Arens, Roger Ball, Robert Becker, & John Lacy.* 323, L73, 158-F1 (1987)

Galactic Center Molecular Clouds. II. Distribution and Kinematics. *John Bally, Antony A. Stark, Robert W. Wilson, & Christian Henkel.* 324, 223, 3-E8 (1988)

A New System of Nonthermal Filaments near the Galactic Center. *John Bally & Farhad Yusef-Zadeh.* 336, 173, 3-C1 (1989)

G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)

Giant Molecular Clouds in the Outer Arm of the Galaxy. *Seth Digel, John Bally, & Patrick Thaddeus.* 357, L29, 121-C1 (1990)

BALMFORTH, N. J. Effluent Stellar Pulsation. *N. J. Balmforth & D. O. Gough.* 362, 256, 172-D1 (1990)

BALONEK, T. J. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

BALONEK, THOMAS J. The Optical and Near-Infrared Polarization Properties of the OVV Quasar 3C 345. *Paul S. Smith, Thomas J. Balonek, Paul A. Heckert, & Richard Elston.* 305, 484, 72-D7 (1986)

Observational Constraints on Bending the Wide-Angle Tailed Radio Galaxy 1919+479. *Jack O. Burns, Christopher P. O'Dea, Stephen A. Gregory, & Thomas J. Balonek.* 307, 73, 95-F9 (1986)

Optical and Near-Infrared Observations of BL Lacertae Objects and Active Quasars. *Paul S. Smith, Thomas J. Balonek, Richard Elston, & Paul A. Heckert.* 64, 459, 22-G9 (1987)

Evidence for Accretion Disks in Highly Polarized Quasars. *Paul S. Smith, Richard Elston, Graham Berriman, Richard G. Allen, & Thomas J. Balonek.* 326, L39, 46-A9 (1988)

BALSER, DANA S. Numerical Simulations of Galactic Structure and Helium Abundance Evolution in Disk Galaxies. *Dana S. Balser & Neil F. Comins.* 328, 499, 68-E3 (1988)

BALSIGER, HANS. Energetic Ion Fluxes in the Inner Coma of Comet P/Halley. *Aharon Eviatar, Raymond Goldstein, David T. Young, Hans Balsiger, Helmut Rosenbauer, & Stephen Fuselier.* 339, 545, 56-E13 (1989)

BALTRUSAITIS, R. M. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)

Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

BALZANO, VICKI A. A Catalog of Markarian Galaxies. *Joseph M. Mazzarella & Vicki A. Balzano.* 62, 751, 41-B2 (1986)

BAND, D. L. Millimeter-Wavelength Observations of SS 433 and Its Environs. *D. L. Band & M. A. Gordon.* 338, 945, 45-E9 (1989)

BAND, DAVID L. The Synchrotron–Self-Compton Process in Spherical Geometries. II. Application to Active Galactic Nuclei. *David L. Band & Jonathan E. Grindlay.* 308, 576, 115-C6 (1986)

Synchrotron and Inverse Compton Emission from Expanding Sources in Jets: Application to SS 433. *David L. Band & Jonathan E. Grindlay.* 311, 595, 154-D1 (1986)

On Nonthermal Models for Active Galactic Nuclei. *David L. Band.* 321, 80, 123-A9 (1987)

Self-similar Supernova Expansion with Heat Transport. *David L. Band.* 332, 842, 133-F2 (1988)

The Early Interaction of a Supernova with the Ambient Medium. I. Adiabatic Expansion. *David L. Band & Edison P. Liang.* 334, 266, 157-C5 (1988)

Comparison of *Einstein* and *EXOSAT* Observations of SS 433. *David L. Band.* 336, 937, 14-B8 (1989)

Synthesis of Accretion Disk and Nonthermal Source Models for Active Galactic Nuclei. *David L. Band & Matthew A. Malkan.* 345, 122, 150-E3 (1989)

Iron K-Shell Emission from NGC 1068. *David L. Band, Richard I. Klein, John I. Castor, & J. K. Nash.* 362, 90, 170-C1 (1990)

BANDIERA, R. Far-Infrared Emission and Star Formation in Spiral Galaxies. *G. Trinchieri, G. Fabbiano, & R. Bandiera.* 342, 759, 111-G1 (1989)

BANDIERA, RINO. On the Origin of Kepler's Supernova Remnant. *Rino Bandiera.* 319, 885, 104-F1 (1987)

X-Rays from SN 1987A: Beneath the Radioactive Layers. *Rino Bandiera, Franco Pacini, & Marco Salvati.* 344, 844, 144-F10 (1989)

BANERJEE, A. Bianchi Type I Cosmological Models in Higher Dimensions. *A. Banerjee, B. Bhui, & S. Chatterjee.* 358, 23, 122-C8 (1990)

BANIA, T. M. Clump 2: An Inner Spiral Arm? *Antony A. Stark & T. M. Bania.* 306, L17, 86-B4 (1986)

Clump 1: An Unusual Molecular Cloud Complex near the Galactic Center. *T. M. Bania, Antony A. Stark, & G. M. Heiligman.* 307, 350, 98-G12 (1986)

A Latitude Survey of Carbon Monoxide Emission near the Galactic Center. *T. M. Bania.* 308, 868, 118-D6 (1986)

Measurements of the ^{3}He Abundance in the Interstellar Medium. *T. M. Bania, Robert T. Rood, & T. L. Wilson.* 323, 30, 153-D3 (1987)

Subparsec Clumping in the Nearby Molecular Cloud MBM 12. *Marc W. Pound, T. M. Bania, & R. W. Wilson.* 351, 165, 40-B1 (1990)

H I Emission-Absorption Experiments toward Galactic H II Regions. *Thomas A. Kuchar & T. M. Bania.* 352, 192, 52-D1 (1990)

BANSE, KLAUS. Observations of the Nebulosities near SN 1987A. *E. Joseph Wampler, Lifan Wang, Dietrich Baade, Klaus Banse, Sandro D'Odorico, Christian Gouiffes, & Massimo Tarenghi.* 362, L13, 174-B9 (1990)

BARAT, C. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Short Solar Events with Evidence of Repetitive Structures. *Upendra D. Desai, Chryssa Kouveliotou, C. Barat, K. Hurley, M. Niel, R. Talon, G. Vedrenne, I. V. Estulin, & V. Ch. Dolidze.* 319, 567, 99-E1 (1987)

Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

BARATTA, GIOVANNI BATTISTA. The Ultraviolet Spectrum of η Carinae. *Roberto Viotti, Lucio Rossi, Angelo Cassatella, Aldo Altamore, & Giovanni Battista Baratta.* 71, 983, 49-F5 (1989)

BARBARO, GUIDO. Models of Spectral Energy Distributions of Elliptical Galaxies. *Guido Barbaro & Fabrizio M. Olivi.* 337, 125, 18-F6 (1989)

BARBER, MICHAEL. The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)

BARBERO, J. Ultraviolet Observations by the *IUE* of 31 Clusters of the Large Magellanic Cloud. *A. Cassatella, J. Barbero, & E. H. Geyer.* 64, 83, 18-A7 (1987)

The Age Calibration of Integrated Ultraviolet Colors and Young Stellar Clusters in the Large Magellanic Cloud. *J. Barbero, E. Brocato, A. Cassatella, V. Castellani, & E. H. Geyer.* 351, 98, 39-C8 (1990)

BARBIERI, CESARE. The Optical Variability of the Quasar 3C 446. *Cesare Barbieri, Roberto Vio, Enrico Cappellaro, & Massimo Turatto.* 359, 63, 134-G1 (1990)

BARBOSA, D. D. Planetary Fast Neutral Emission and Effects on the Solar Wind: A Cometary Exosphere Analog. *D. D. Barbosa & A. Eviatar.* 310, 927, 144-B10 (1986)

Beaming of Uranian Kilometric Radiation and Implications for the Planetry Magnetic Field. *D. D. Barbosa.* 315, L151, 49-G6 (1987)

Planetary Fast Neutral Emission and Effects on the Solar Wind: A Cometary Exosphere Analog: Erratum. *D. D. Barbosa & A. Eviatar.* 321, 1049, 135-G14 (1987) (Orig. paper in 310, 927, 144-B10 (1986))

Polar Cap Emission Model of Uranian Kilometric Radiation. *D. D. Barbosa.* 333, 443, 143-A6 (1988)

Stochastic Acceleration of Cometary Pickup Ions: The Classic Leaky Box Model. *D. D. Barbosa.* 341, 493, 90-A5 (1989)

BARCONS, XAVIER. X-Ray Radiation from the Intergalactic Plasma. *Xavier Barcons.* 313, 547, 22-F11 (1987)

On the Timing Formula for Isolated Pulsars: The Case of Bunching Emission. *Xavier Barcons, Miquel Portilla, & José L. Sanz.* 331, 397, 110-F1 (1988)

BARDEEN, J. M. The Statistics of Peaks of Gaussian Random Fields. *J. M. Bardeen, J. R. Bond, N. Kaiser, & A. S. Szalay.* 304, 15, 54-B6 (1986)

Cosmic Fluctuation Spectra with Large-Scale Power. *J. M. Bardeen, J. R. Bond, & G. Efstathiou.* 321, 28, 122-D1 (1987)

BARDEN, SAM. A Search with a Fiber-optic Array for Emission near QSO Absorbers. *Brian Yanny, Sam Barden, John S. Gallagher III, & D. G. York.* 352, 413, 56-C3 (1990)

BARDEN, SAMUEL C. Detection of a BY Draconis–like Binary Companion to the Contact Binary XY Leonis. *Samuel C. Barden.* 317, 333, 67-E4 (1987)

The Active Chromosphere Binary HD 17433 (VY Arietis). *Bernard W. Bopp, Steven H. Saar, Carol Ambruster, Paul Feldman, Robert Dempsey, Morgan Allen, & Samuel C. Barden.* 339, 1059, 64-G1 (1989)

BARKAT, ZALMAN. Progenitor Structure of SN 1987A. *Zalman Barkat & J. Craig Wheeler.* 332, 247, 125-G4 (1988)

Supernova 1987A: The Progenitor Corridor. *Zalman Barkat & J. Craig Wheeler.* 341, 925, 96-F1 (1989)

SN 1987A: Was Sanduleak −69°202 Mixed Up? *Zalman Barkat & J. Craig Wheeler.* 342, 940, 114-A1 (1989)

The Convective Urca Mechanism. *Zalman Barkat & J. Craig Wheeler.* 355, 602, 96-A12 (1990)

BARKER, BRUCE M. Relativistic Kepler's Third Law. *Bruce M. Barker, Gene G. Byrd, & R. F. O'Connell.* 305, 623, 75-F3 (1986)

BARKER, E. S. Supernovae 1983i and 1983v: Evidence for Abundance Variations in Type Ib Supernovae. *J. C. Wheeler, R. P. Harkness, E. S. Barker, A. L. Cochran, & D. Wills.* 313, L69, 27-C11 (1987)

The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L.*

Dinerstein, D. R. Garnett, & R. M. Levreault. 317, 355, 67-F14 (1987)

BARKER, F. C. A Comment on the $^7Be(\rho,\gamma)^8B$ Cross Section and the Solar Neutrino Problem. *F. C. Barker & R. H. Spear.* 307, 847, 106-C3 (1986)

BARKER, J. R. Interstellar Polycyclic Aromatic Hydrocarbons: The Infrared Emission Bands, the Excitation/Emission Mechanism, and the Astrophysical Implications. *L. J. Allamandola, A. G. G. M. Tielens, & J. R. Barker.* 71, 733, 46-E9 (1989)

BARKER, JOHN R. Anharmonicity and the Interstellar Polycyclic Aromatic Hydrocarbon Infrared Emission Spectrum. *John R. Barker, L. J. Allamandola, & A. G. G. M. Tielens.* 315, L61, 45-E14 (1987)

Infrared Emission from a Polycyclic Aromatic Hydrocarbon (PAH) Excited by Ultraviolet Laser. *Isabelle Cherchneff & John R. Barker.* 341, L21, 91-B13 (1989)

BARKER, P. K. The Magnetic Field and Abundance Distribution Geometry of the Peculiar B Star HD 215441. *J. D. Landstreet, P. K. Barker, D. A. Bohlender, & M. S. Jewison.* 344, 876, 145-B2 (1989)

BARKER, PAUL K. Mass Loss in a B2 IIIe Star: ω Orionis 1978–1984. *George Sonneborn, C. A. Grady, Chi-Chao Wu, Daniel P. Hayes, E. F. Guinan, Paul K. Barker, & H. F. Henrichs.* 325, 784, 29-B8 (1988)

Highly Ionized Stellar Winds in Be Stars. II. Winds in B6–B9.5e Stars. *C. A. Grady, K. S. Bjorkman, T. P. Snow, George Sonneborn, Steven N. Shore, & Paul K. Barker.* 339, 403, 55-A8 (1989)

BARKER, TIMOTHY. The Ionization Structure of Planetary Nebulae. VI. NGC 7662. *Timothy Barker.* 308, 314, 111-D11 (1986)

The Ionization Structure of Planetary Nebulae. VII. New Observations of the Ring Nebula. *Timothy Barker.* 322, 922, 150-A6 (1987)

The Ionization Structure of Planetary Nebulae. VIII. NGC 6826. *Timothy Barker.* 326, 164, 33-G12 (1988)

The Ionization Structure of Planetary Nebulae. IX. NGC 1535. *Timothy Barker.* 340, 921, 79-G7 (1989)

BARKSDALE, W. The Rotation Period and Inclination Angle of T Tauri. *W. Herbst, J. F. Booth, P. F. Chugainov, G. V. Zajtseva, W. Barksdale, E. Covino, L. Terranegra, A. Vittone, & F. Vrba.* 310, L71, 145-A13 (1986)

BARKSDALE, WILLIAM S. HR 1362: A Test Case for Stellar Dynamo Theories. *Klaus G. Strassmeier, Douglas S. Hall, William S. Barksdale, Anthony T. Jusick, & Gregory W. Henry.* 350, 367, 29-E3 (1990)

BARLOW, M. J. The Planetary Nebula NGC 3918. *R. E. S. Clegg, J. P. Harrington, M. J. Barlow, & J. R. Walsh.* 314, 551, 35-E7 (1987)

High-Resolution Observations of Interstellar Na I and Ca II Absorption Lines toward the Scorpius OB1 Association. *I. A. Crawford, M. J. Barlow, & J. C. Blades.* 336, 212, 3-F8 (1989)

Terminal Velocities for a Large Sample of O Stars, B Supergiants, and Wolf-Rayet Stars. *Raman K. Prinja, M. J. Barlow, & Ian D. Howarth.* 361, 607, 165-E9 (1990)

BARLOW, THOMAS A. Variability of the Broad Absorption Lines in the QSO UM 232. *Thomas A. Barlow, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 347, 674, 191-E7 (1989)

BARNARD, J. J. Effects of High-Energy Neutrino Production and Interactions on Stars in Close X-Ray Binaries. *T. K. Gaisser, F. W. Stecker, A. K. Harding, & J. J. Barnard.* 309, 674, 128-F1 (1986)

BARNARD, JOHN J. Wave Propagation in Pulsar Magnetospheres: Dispersion Relations and Normal Modes of Plasmas in Superstrong Magnetic Fields. *Jonathan Arons & John J. Barnard.* 302, 120, 29-C8 (1986)

Wave Propagation in Pulsar Magnetospheres: Refraction of Rays in the Open Flux Zone. *John J. Barnard & Jonathan Arons.* 302, 138, 29-D12 (1986)

Probing the Magnetic Field of Radio Pulsars: A Reexamination of Polarization Position Angle Swings. *John J. Barnard.* 303, 280, 44-B8 (1986)

BARNES, ALAN V. The Initial Neutrino Events from Supernovae as Evidence for Matter versus Anitmatter. *Alan V. Barnes, Thomas J. Weiler, & Sandip Pakvasa.* 323, L31, 158-C4 (1987)

BARNES, D. C. Dynamical Evolution of a Solar Coronal Magnetic Field Arcade. *Z. Mikić, D. C. Barnes, & D. D. Schnack.* 328, 830, 72-C4 (1988)

BARNES, JEANNETTE V. Spectrophotometric Standards. *Philip Massey, Kevin Strobel, Jeannette V. Barnes, & Edwin Anderson.* 328, 315, 65-D8 (1988)

BARNES, JOSHUA. Dynamical Instabilities in Spherical Stellar Systems. *Joshua Barnes, Jeremy Goodman, & Piet Hut.* 300, 112, 2-B12 (1986)

Angular Momentum from Tidal Torques. *Joshua Barnes & George Efstathiou.* 319, 575, 101-C1 (1987)

BARNES, JOSHUA E. Encounters of Disk/Halo Galaxies. *Joshua E. Barnes.* 331, 699, 116-E1 (1988)

Error Analysis of a Tree Code. *Joshua E. Barnes & Piet Hut.* 70, 389, 23-F11 (1989)

Are Some *N*-Body Algorithms Intrinsically Less Collisional than Others? *Lars Hernquist & Joshua E. Barnes.* 349, 562, 22-C5 (1990)

BARNES, PETER J. Orion B (NGC 2024). I. VLA and IR Observations of the H II Region. *Peter J. Barnes, Richard M. Crutcher, J. H. Bieging, J. W. V. Storey, & S. P. Willner.* 342, 883, 113-C3 (1989)

Orion B (NGC 2024). II. Hat Creek Synthesis Observations of the Molecular Core in the $J=1\rightarrow0$ Line of HCO^+. *Peter J. Barnes & Richard M. Crutcher.* 351, 176, 40-C2 (1990)

BARNES, THOMAS G., III. Absolute Magnitudes and Kinematic Properties of RR Lyrae Stars. *Suzanne L. Hawley, William H. Jefferys, Thomas G. Barnes III, & Wan Lai.* 302, 626, 37-D11 (1986)

Observational Studies of Cepheids. IV. The Feinheit Functions. *Thomas J. Moffett & Thomas G. Barnes III.* 304, 607, 62-F3 (1986)

On the Absolute Magnitudes of RR Lyrae Stars. *Thomas G. Barnes III & Suzanne L. Hawley.* 307, L9, 100-A12 (1986)

Observational Studies of Cepheids. V. Radial Velocities of Bright Cepheids. *Thomas G. Barnes III, Thomas J. Moffett, & Mark H. Slovak.* 65, 307, 32-E1 (1987)

Observational Studies of Cepheids. VI. Period-Radius Relations. *Thomas J. Moffett & Thomas G. Barnes III.* 323, 280, 156-B5 (1987)

Observational Studies of Cepheids. VII. Radial Velocities of Faint Cepheids. *Thomas G. Barnes III, Thomas J. Moffett, & Mark H. Slovak.* 66, 43, 1-E6 (1988)

Contemporaneous Photometry and Radial Velocities of RR Lyrae Stars. *Thomas G. Barnes III, Thomas J. Moffett, Suzanne L. Hawley, Mark H. Slovak, & Marian L. Frueh.* 67, 403, 17-E1 (1988)

Observational Studies of Cepheids. VIII. Additional Radial Velocities of Cepheids and RR Lyrae Variables. *Teresa D. Wilson, Michael W. Carter, Thomas G. Barnes III, G. Wayne Van Citters, Jr., & Thomas J. Moffett.* 69, 951, 15-D3 (1989)

The Period-Radius Relation for Classical Cepheids from the Visual Surface Brightness Technique. *Wolfgang P. Gieren, Thomas G. Barnes III, & Thomas J. Moffett.* 342, 467, 106-D13 (1989)

BAR-NUN, AKIVA. On the Evolution and Activity of Cometary Nuclei. *Dina Prialnik & Akiva Bar-Nun.* 313, 893, 26-E3 (1987)

Radiogenic Heating of Comets by ^{26}Al and Implications for Their Time of Formation. *Dina Prialnik, Akiva Bar-Nun, & Morris Podolak.* 319, 993, 105-G1 (1987)

The Possible Formation of a Hydrogen Coma around Comets at Large Heliocentric Distances. *Akiva Bar-Nun & Dina Prialnik.* 324, L31, 9-C4 (1988)

Heating and Melting of Small Icy Satellites by the Decay of ^{26}Al. *Dina Prialnik & Akiva Bar-Nun.* 355, 281, 90-D1 (1990)

Gas Release in Comet Nuclei. *Dina Prialnik & Akiva Bar-Nun.* 363, 274, 185-E1 (1990)

BARON, E. Collapse of 9 $M_\odot$ Stars. *E. Baron, J. Cooperstein, & S. Kahana.* 320, 300, 111-D1 (1987)

Collapsing White Dwarfs. *E. Baron, J. Cooperstein, S. Kahana, & K. Nomoto.* 320, 304, 111-D5 (1987)

Neutrino Pair Energy Deposition in Supernovae. *J. Cooperstein, L. J. van den Horn, & E. Baron.* 321, L129, 137-C7 (1987)

The Appearance of Primeval Galaxies. *E. Baron & Simon D. M. White.* 322, 585, 146-C1 (1987)

Pressure-confined Lyman-Alpha Clouds. *E. Baron, R. F. Carswell, C. J. Hogan, & R. J. Weymann.* 337, 609, 26-F1 (1989)

General Relativistic Neutrino Transport in Stellar Collapse. *E. Baron, E. S. Myra, J. Cooperstein, & L. J. van den Horn.* 339, 978, 63-G1 (1989)

The Effect of Iron Core Structure on Supernovae. *E. Baron & J. Cooperstein.* 353, 597, 71-C12 (1990)

Strangeness, Condensation, Nucleon Superfluidity, and Cooling of Neutron Stars. *Dany Page & E. Baron.* 354, L17, 80-C1 (1990)

BARON, E. A. Neutrino Flows in Collapsing Stars: A Two-Fluid Model. *J. Cooperstein, L. J. van den Horn, & E. A. Baron.* 309, 653, 128-D5 (1986)

Neutrino Flows in Collapsing Stars: A Two-Fluid Model: Erratum. *J. Cooperstein, L. J. van den Horn, & E. A. Baron.* 315, 729, 48-E10 (1987) (Orig. paper in 309, 653, 128-D5 (1986))

BAROUCH, E. Observation of the Vela Pulsar, PSR 0833–45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

BARR, P. Multifrequency Observations of the Blazar PKS 0537–441 in a Moderately Active State. *E. G. Tanzi, P. Barr, P. Bouchet, L. Chiappetti, S. Christiani, R. Falomo, P. Giommi, L. Maraschi, & A. Treves.* 311, L13, 152-B7 (1986)

Inverse Compton Scattering of Ambient Radiation by a Cold Relativistic Jet: A Source of Beamed, Polarized X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *Mitchell C. Begelman, Marek Sikora, P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 650, 146-G12 (1987)

X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 662, 147-A10 (1987)

The Detection of a High-Energy Break in the X-Ray Spectrum of the BL Lacertae Object PKS 0548–32. *P. Barr, P. Giommi, & D. Maccagni.* 324, L11, 9-A13 (1988)

The Complex 0.4–12 keV X-Ray Spectrum of Cygnus X-1. *P. Barr & H. van der Woerd.* 352, L41, 61-C6 (1990)

Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)

A Study of BL Lacertae–Type Objects with *EXOSAT*. I. Flux Correlations, Luminosity, Variability, and Spectral Variability. *P. Giommi, P. Barr, B. Garilli, D. Maccagni, & A. M. T. Pollock.* 356, 432, 105-F1 (1990)

BARR, PAUL. Rapid X-Ray and Optical Variability in the X-Ray–selected BL Lacertae Object 1E 1402.3+0416. *Paolo Giommi, Paul Barr, Isabella M. Gioia, Tommaso Maccacaro, Rudolph Schild, Bianca Garilli, & Dario Maccagni.* 303, 596, 49-A10 (1986)

BARRETO, W. Diffusion Processes in General Relativistic Radiating Spheres. *W. Barreto, L. Herrera, & N. O. Santos.* 344, 158, 135-A7 (1989)

BARRETT, ALAN H. CO in Optically Selected Starburst Galaxies. *James M. Jackson, Ronald L. Snell, Paul T. P. Ho, & Alan H. Barrett.* 337, 680, 27-D10 (1989)

BARRETT, J. Mass, Luminosity, and Line Width Relations of Galactic Molecular Clouds. *P. M. Solomon, A. R. Rivolo, J. Barrett, & A. Yahil.* 319, 730, 103-A8 (1987)

BARRETT, J. W. 15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

BARRETT, P. E. Thermal Cyclotron Absorption Coefficients. *G. Chanmugam, P. E. Barrett, Kinwah Wu, & M. W. Courtney.* 71, 323, 39-C9 (1989)

BARRY, DON C. Chromospheric Activity and Ages of Solar-Type Stars. *Don C. Barry, Richard H. Cromwell, & E. Keith Hege.* 315, 264, 42-G5 (1987)

The Chromospheric Age Dependence of the Birthrate, Composition, Motions, and Rotation of Late F and G Dwarfs within 25 Parsecs of the Sun. *Don C. Barry.* 334, 436, 159-E7 (1988)

BAR-SHALOM, A. Resonant Excitation of $2p^5 3s$ and $2p^5 3p$ Levels in Fe XVII. *W. H. Goldstein, A. Osterheld, J. Oreg, & A. Bar-Shalom.* 344, L37, 140-D3 (1989)

BARSONY, M. No Molecular Gas Disk in S106. *M. Barsony, N. Z. Scoville, J. Bally, & M. J. Claussen.* 343, 212, 120-G4 (1989)

A Close-up View of the S87 Molecular Outflow. *M. Barsony.* 345, 268, 152-D10 (1989)

Discovery of New 2 Micron Sources in ρ Ophiuchi. *M. Barsony, Michael G. Burton, A. P. G. Russell, J. E. Carlstrom, & R. Garden.* 346, L93, 181-E4 (1989)

The Circumstellar Environment of the Emission-Line Star, LkHα 101. *M. Barsony, N. Z. Scoville, J. M. Schombert, & M. J. Claussen.* 362, 674, 179-B6 (1990)

BARSTOW, M. A. The Detection of Photospheric X-Ray Pulsations from PG 1159–035 with *EXOSAT*. *M. A. Barstow, J. B. Holberg, Albert D. Grauer, & D. E. Winget.* 306, L25, 86-B11 (1986)

An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather, D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine.* 357, 204, 113-E7 (1990)

BARTEL, N. VLBI Observations of 23 Hot Spots in the Starburst Galaxy M82. *N. Bartel, M. I. Ratner, A. E. E. Rogers, I. I. Shapiro, R. J. Bonometti, N. L. Cohen, M. V. Gorenstein, J. M. Marcaide, & R. A. Preston.* 323, 505, 160-B3 (1987)

VLBI Observations of the Gravitational Lens System 0957+561: Structure and Relative Magnification of the A and B Images. *M. V. Gorenstein, N. L. Cohen, I. I. Shapiro, A. E. E. Rogers, R. J. Bonometti, E. E. Falco, N. Bartel, & J. M. Marcaide.* 334, 42, 154-E1 (1988)

VLBI Observations of a Pulsar's Scattering Disk. *C. R. Gwinn, J. M. Cordes, N. Bartel, A. Wolszczan, & R. L. Mutel.* 334, L13, 161-B10 (1988)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

BARTEL, NORBERT. High-Resolution Radio Observations of the Most Luminous Quasar. *Helmut Kühr, John T. Stocke, Peter A. Strittmatter, Norbert Bartel, Andreas Eckart, Cornelius Schalinski, Arno Witzel, & Peter Biermann.* 302, 52, 28-E5 (1986)

18 Centimeter VLBI Observations of the Quasar NRAO 140 during and after a Low-Frequency Outburst. *Alan P. Marscher, John J. Broderick, Lucia Padrielli, Norbert Bartel, & Jonathan D. Romney.* 319, 456, 98-B8 (1987)

VLBI Observations of SN 1986J: Deviations from Spherical Symmetry in Its Radio Brightness Distribution. *Norbert Bartel, Michael R. Rupen, & Irwin I. Shapiro.* 337, L85, 32-C7 (1989)

BARTHEL, P. D. 1642+690: A Superluminal Quasar. *T. J. Pearson, P. D. Barthel, C. R. Lawrence, & A. C. S. Readhead.* 300, L25, 13-B1 (1986)

Distorted Structure in the Small High-Redshift Radio Source 4C 29.50. *C. J. Lonsdale & P. D. Barthel.* 303, 617, 49-C5 (1986)

0850+581: Another Superluminal Radio Source. *P. D. Barthel, T. J. Pearson, A. C. S. Readhead, & B. J. Canzian.* 310, L7, 138-A10 (1986)

3C 216—A New Type of Superluminal Quasar. *P. D. Barthel, T. J. Pearson, & A. C. S. Readhead.* 329, L51, 89-A9 (1988)

Superluminal Motion in the Giant Quasar 4C 34.47. *P. D. Barthel, J. R. Hooimeyer, R. T. Schilizzi, G. K. Miley, & E. Preuss.* 336, 601, 10-A9 (1989)

BARTHEL, PETER D. Expanding Quasars and the Expansion of the Universe. *Marshall H. Cohen, Peter D. Barthel, Timothy J. Pearson, & J. Anton Zensus.* 329, 1, 75-A9 (1988)

Is Every Quasar Beamed? *Peter D. Barthel.* 336, 606, 10-B1 (1989)

BARTHELMY, S. Observations of Gamma-Ray Line Profiles from SN 1987A. *J. Tueller, S. Barthelmy, N. Gehrels, B. J. Teegarden, M. Leventhal, & C. J. MacCallum.* 351, L41, 49-D1 (1990)

BARTLETT, JAMES G. A Comptonization Model for the Submillimeter Background. *James G. Bartlett & Joseph Silk.* 353, 399, 69-A7 (1990)

BARTNIK, E. A. Equations of Motion Using the Dynamical Evolution of the Runge-Lenz Vector. *E. A. Bartnik, H. Haberzettl, & W. Sandhas.* 334, 517, 160-E8 (1988)

BARTOE, J.-D. F. High-Resolution Telescope and Spectrograph Images of the Solar Chromosphere and Transition Zone. *K. P. Dere, J.-D. F. Bartoe, & G. E. Brueckner.* 305, 947, 79-C13 (1986)

The High-Resolution Solar Spectrum, 1175–1710 Å. *G. D. Sandlin, J.-D. F. Bartoe, G. E. Brueckner, R. Tousey, & M. E. VanHoosier.* 61, 801, 29-A4 (1986)

Outflows and Ejections in the Solar Transition Zone. *K. P. Dere, J.-D. F. Bartoe, & G. E. Brueckner.* 310, 456, 137-A1 (1986)

Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)

Plasma Motions in an Emerging Flux Region. *G. E. Brueckner, J.-D. F. Bartoe, J. W. Cook, K. P. Dere, D. Socker, H. Kurokawa, & M. McCabe.* 335, 986, 183-E2 (1988)

Transition Zone Flows Observed in a Coronal Hole on the Solar Disk. *K. P. Dere, J.-D. F. Bartoe, G. E. Brueckner, & F. Recely.* 345, L95, 165-C9 (1989)

BARVAINIS, R. VLBI and Polarimetric Observations of the SiO Masers in R Cassiopeiae. *G. C. McIntosh, C. R. Predmore, J. M. Moran, L. J. Greenhill, A. E. E. Rogers, & R. Barvainis.* 337, 934, 30-D9 (1989)

BARVAINIS, R. E. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

BARVAINIS, RICHARD. Hot Dust and the Near-Infrared Bump in the Continuum Spectra of Quasars and Active Galactic Nuclei. *Richard Barvainis.* 320, 537, 115-D4 (1987)

The Cores of Lobe-dominant Quasars. *Robert R. J. Antonucci & Richard Barvainis.* 325, L21, 31-B12 (1988)

Excess 2 Centimeter Emission: A New Continuum Component in the Spectra of Radio-quiet Quasars. *Robert Antonucci & Richard Barvainis.* 332, L13, 129-C4 (1988)

A Catalog of Small, Optically Selected Molecular Clouds: Optical, Infrared, and Millimeter Properties. *Dan P. Clemens & Richard Barvainis.* 68, 257, 27-A1 (1988)

Detection of Strong Carbon Monoxide Emission from the Host Galaxy of the Quasar I Zw 1. *Richard Barvainis, Danielle Alloin, & Robert Antonucci.* 337, L69, 32-B1 (1989)

Millimeter, Centimeter, and Carbon Monoxide Observations of Radio-quiet Quasars and Luminous Seyfert 1 Galaxies Detected by *IRAS*. *Richard Barvainis & Robert Antonucci.* 70, 257, 22-B1 (1989)

The Empirical Difference between Radio-loud and Radio-quiet Quasars. *Robert Antonucci, Richard Barvainis, & Danielle Alloin.* 353, 416, 69-B13 (1990)

On the Optical–to–Far-Infrared Spectral Energy Distributions of Radio-quiet Quasars. *Richard Barvainis.* 353, 419, 69-C3 (1990)

Narrow-Line Radio Galaxies as Quasars in the Sky Plane. *Robert Antonucci & Richard Barvainis.* 363, L17, 193-D1 (1990)

BARWICK, S. W. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

A Search for Charged Massive Particles in *IMP 8* Data. *D. P. Snowden-Ifft, S. W. Barwick, & P. B. Price.* 364, L25, 205-C1 (1990)

BARYLAK, M. Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)

BASART, J. P. Temperature and Emission-Measure Distributions for Several Planetary Nebulae. *J. P. Basart & C. T. Daub.* 317, 412, 68-D14 (1987)

BASCHEK, B. Ultraviolet Doubly Excited Fe II Lines in the Laboratory and in the A-Type Star 21 Pegasi. *J. Adam, B. Baschek, S. Johansson, A. E. Nilsson, & T. Brage.* 312, 337, 4-E6 (1987)

BASH, F. N. The Correlation of Spiral Arm Molecular Clouds with Cold Atomic Hydrogen. *W. L. Peters & F. N. Bash.* 317, 646, 73-B8 (1987)

BASH, FRANK N. The Global Structure of M81: Radio Continuum Maps. *Frank N. Bash & Michele Kaufman.* 310, 621, 140-E12 (1986)

Giant H II Regions in M81. *Michele Kaufman, Frank N. Bash, R. C. Kennicutt, Jr., & P. W. Hodge.* 319, 61, 93-F7 (1987)

A CO Survey of Regions around 34 Open Clusters. *David Leisawitz, Frank N. Bash, & Patrick Thaddeus.* 70, 731, 30-A1 (1989)

A Comparison of Spiral Tracers in M81. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 345, 674, 159-B1 (1989)

The Dust Lanes in M81: Tracers of the Molecular Gas? *Michele Kaufman, Debra Meloy Elmegreen, & Frank N. Bash.* 345, 697, 159-D1 (1989)

A Comparison of Spiral Tracers in M81: Erratum. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 354, 387, 79-A10 (1990) (Orig. paper in 345, 674, 159-B1 (1989))

BASILE, J. DA White Dwarf Effective Temperatures Determined from *IUE* Lyman-Alpha Profiles. *J. B. Holberg, F. Wesemael, & J. Basile.* 306, 629, 91-D7 (1986)

BASRI, GIBOR. Stellar Activity in Synchronized Binaries. II. A Correlation Analysis with Single Stars. *Gibor Basri.* 316, 377, 54-B9 (1987)

The Atmospheres of T Tauri Stars. I. High-Resolution Calibrated Observations of Moderately Active Stars. *Ulrich Finkenzeller & Gibor Basri.* 318, 823, 90-A2 (1987)

Physical Realism in the Analysis of Stellar Magnetic Fields. *Gibor Basri & Geoffrey W. Marcy.* 330, 274, 93-B6 (1988)

Accretion Disks around T Tauri Stars. *Claude Bertout, Gibor Basri, & Jerome Bouvier.* 330, 350, 94-B1 (1988)

Accretion Disks around T Tauri Stars. II. Balmer Emission. *Gibor Basri & Claude Bertout.* 341, 340, 88-A9 (1989)

Physical Realism in the Analysis of Stellar Magnetic Fields. II. K Dwarfs. *Geoffrey W. Marcy & Gibor Basri.* 345, 480, 155-B1 (1989)

The Temperature Scale of Hot DA White Dwarfs: Temperatures from Far-Ultraviolet Continuum Fluxes. *David S. Finley, Gibor Basri, & Stuart Bowyer.* 359, 483, 142-A10 (1990)

Physical Realism in the Analysis of Stellar Magnetic Fields. III. Flux Tubes and Multicomponent Atmospheres. *Gibor Basri, Geoffrey W. Marcy, & Jeff A. Valenti.* 360, 650, 154-C1 (1990)

Hamilton Echelle Spectra of Young Stars. I. Optical Veiling. *Gibor Basri & Celso Batalha.* 363, 654, 192-C5 (1990)

BASSANI, L. Hard X-Ray Observations of Cygnus X-1 with the MISO Telescope. *F. Perotti, A. Della Ventura, G. Villa, L. Bassani, R. C. Butler, G. Di Cocco, R. E. Baker, A. J. Dean, & C. G. Hanson.* 300, 297, 4-C12 (1986)

A Broad-Band Contemporaneous Study of the Seyfert Galaxy NGC 4151. *L. Bassani, R. C. Butler, G. Di Cocco, A. Della Ventura, F. Perotti, G. Villa, R. E. Baker, A. J. Dean, & T. J. Lee.* 311, 623, 154-F1 (1986)

Gamma-Ray Observations of Cygnus X-1. *L. Bassani, A. J. Dean, G. Di Cocco, F. Perotti, & J. B. Stephen.* 343, 313, 122-A10 (1989)

A New Narrow-Line Seyfert 1 Galaxy: IRAS 1652+395. *L. Bassani, M. J. Coe, M. A. Malkan, N. Mandolesi, B. Partridge, & L. Spinoglio.* 344, 726, 143-D2 (1989)

Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

BASTIAN, T. S. The Discovery of Nonthermal Radio Emission from Magnetic Bp–Ap Stars. *Stephen A. Drake, David C. Abbott, T. S. Bastian, J. H. Bieging, E. Churchwell, G. Dulk, & Jeffrey L. Linsky.* 322, 902, 149-F10 (1987)

Radio Flares from AE Aquarii: A Low-Power Analog to Cygnus X-3? *T. S. Bastian, G. A. Dulk, & G. Chanmugam.* 324, 431, 6-A1 (1988)

Radio Flares from AE Aquarii: A Low-Power Analog to Cygnus X-3?: Erratum. *T. S. Bastian, G. A. Dulk, & G. Chanmugam.* 330, 518, 96-A12 (1988) (Orig. paper in 324, 431, 6-A1 (1988))
Dynamic Spectra of Radio Bursts from Flare Stars. *T. S. Bastian, J. Bookbinder, G. A. Dulk, & M. Davis.* 353, 265, 65-D1 (1990)
BASTIAN, TIMOTHY S. Two-Frequency Imaging of Microwave Impulsive Flares near the Solar Limb. *George A. Dulk, Timothy S. Bastian, & Sharad R. Kane.* 300, 438, 5-G6 (1986)
A Search for Cyclotron Maser Radiation from Substellar and Planet-like Companions of Nearby Stars. *Robert M. Winglee, George A. Dulk, & Timothy S. Bastian.* 309, L59, 125-G7 (1986)
BASTIEN, P. Spectroscopic and Polarimetric Parameters of the Runaway WN7 Binary System HD 197406: Is the Secondary an X-Ray–quiet Black Hole? *L. Drissen, R. Lamontagne, A. F. J. Moffat, P. Bastien, & M. Seguin.* 304, 188, 56-A1 (1986)
Polarimetic Observations of the WN7 Binary CQ Cephei. *L. Drissen, A. F. J. Moffat, P. Bastien, R. Lamontagne, & S. Tapia.* 306, 215, 83-E12 (1986)
Optical Polarization Maps of Star-forming Regions in Perseus, Taurus, and Ophiuchus. *A. A. Goodman, P. Bastien, P. C. Myers, & F. Ménard.* 359, 363, 140-E6 (1990)
BASTIEN, PIERRE. Circular Polarization in T Tauri Stars. *Raymond Nadeau & Pierre Bastien.* 307, L5, 100-A8 (1986)
Solutions of the Coagulation Equation with Time-dependent Coagulation Rates. *Claude Lejeune & Pierre Bastien.* 309, 167, 121-G2 (1986)
Polarization, Jets, and the Distribution of Circumstellar Dust around T Tauri Stars and Other Young Infrared Sources. *Pierre Bastien.* 317, 231, 66-D12 (1987)
Polarization Variability among Wolf-Rayet Stars. I. Linear Polarization of a Complete Sample of Southern Galactic WC Stars. *Nicole St-Louis, Laurent Drissen, Anthony F. J. Moffat, Pierre Bastien, & Santiago Tapia.* 322, 870, 149-C13 (1987)
Polarization Variability among Wolf-Rayet Stars. II. Linear Polarization as a Complete Sample of Southern Galactic WN Stars. *Laurent Drissen, Nicole St-Louis, Anthony F. J. Moffat, & Pierre Bastien.* 322, 888, 149-E5 (1987)
On the Interpretation of Polarization Maps of Young Stellar Objects. *Pierre Bastien & François Ménard.* 326, 334, 35-G7 (1988)
Polarization Variability among Wolf-Rayet Stars. III. A New Way to Derive Mass-Loss Rates for Wolf-Rayet Stars in Binary Systems. *Nicole St-Louis, Anthony F. J. Moffat, Laurent Drissen, Pierre Bastien, & Carmelle Robert.* 330, 286, 93-C4 (1988)
Detection of Circular Polarization in R Monocerotis and NGC 2261: Implications for the Polarization Mechanism. *François Ménard, Pierre Bastien, & Carmelle Robert.* 335, 290, 173-F9 (1988)
Circular Polarization in T Tauri Stars. II. New Observations and Evidence for Multiple Scattering. *Pierre Bastien, Carmelle Robert, & Raymond Nadeau.* 339, 1089, 65-B4 (1989)
Polarization Variability among Wolf-Rayet Stars. V. Linear Polarization of the Bright Cygnus Stars and an Anticorrelation of Variability with Wind Speed. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Laurent Drissen, & Nicole St-Louis.* 347, 1034, 196-D5 (1989)
Collapse and Fragmentation of Isothermal and Polytropic Cylindrical Clouds. *François Rouleau & Pierre Bastien.* 355, 172, 89-B1 (1990)
Polarization Variability among Wolf-Rayet Stars. VI. Linear Polarimetry of the Eclipsing Binary V444 Cygni. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Nicole St-Louis, & Laurent Drissen.* 359, 211, 136-F3 (1990)
Parameters of Disks around Young Stellar Objects from Polarization Observations. *Pierre Bastien & François Ménard.* 364, 232, 196-G13 (1990)
BATALHA, CELSO. Hamilton Echelle Spectra of Young Stars. I. Optical Veiling. *Gibor Basri & Celso Batalha.* 363, 654, 192-C5 (1990)
BATCHELOR, D. A. Energetics and Dynamics of Simple Impulsive Solar Flares. *R. Starr, W. A. Heindl, C. J. Crannell, R. J. Thomas, D. A. Batchelor, & A. Magun.* 329, 967, 87-F3 (1988)
BATCHELOR, DAVID. The Spatial Scales and Rise Times of Impulsive Solar Burst Sources. *David Batchelor.* 340, 607, 74-F11 (1989)
Observational Clues to the Energy Release Process in Impulsive Solar Bursts. *David Batchelor.* 73, 131, 19-D3 (1990)
BATES, B. The Determination of Element Abundances in the Solar Neighborhood from B-Type Stellar Spectra. I. Argon. *F. P. Keenan, B. Bates, P. L. Dufton, D. E. Holmgren, & S. Gilheany.* 348, 322, 5-A7 (1990)
BATES, DAVID R. Products of Dissociative Recombination of Polyatomic Ions. *David R. Bates.* 306, L45, 86-D3 (1986)
Rate of $CH_3^+ + H_2 \rightarrow CH_5^+ + h\nu$ and Role of Electronic Transitions in Other Radiative Association Processes. *David R. Bates.* 312, 363, 4-G5 (1987)
Ion-Dipolar Molecule Rate Coefficients. *Wm. Lowell Morgan & David R. Bates.* 314, 817, 38-E3 (1987)
Ion-Dipolar Molecule Rate Coefficients: Erratum. *Wm. Lowell Morgan & David R. Bates.* 321, 1049, 135-G14 (1987) (Orig. paper in 314, 817, 38-E3 (1987))
Radiative Association via Excited Electronic States: Model Calculations. *Eric Herbst & David R. Bates.* 329, 410, 79-E8 (1988)
Dissociative Recombination of Polyatomic Ions: Curve Crossing. *David R. Bates.* 344, 531, 139-E13 (1989)
BATRLA, W. VLBI Observations of 12 GHz Methanol Masers. *K. M. Menten, M. J. Reid, J. M. Moran, T. L. Wilson, K. J. Johnston, & W. Batrla.* 333, L83, 152-F1 (1988)
High-Resolution Molecular Observations of NGC 7538 IRS 1. *P. Pratap, W. Batrla, & L. E. Snyder.* 351, 530, 46-F5 (1990)
BATRLA, WOLFGANG. Detection of a Strong New Maser Line of Methanol toward DR 21(OH). *Wolfgang Batrla & Karl M. Menten.* 329, L117, 89-G1 (1988)
Interferometric Observations of the 1–0 Transition of HCO^+ toward NGC 7538 IRS 1. *Wolfgang Batrla, Preethi Pratap, & Lewis E. Snyder.* 330, L67, 97-A6 (1988)
Masers and Molecules near the Unusual Formaldehyde Maser NGC 7538 IRS 1. *Preethi Pratap, Wolfgang Batrla, & L. E. Snyder.* 341, 832, 95-E1 (1989)
Observations of Various Methanol Maser Transitions toward the NGC 6334 Region. *Karl M. Menten & Wolfgang Batrla.* 341, 839, 95-E8 (1989)
BATTANER, E. A Theoretical Steady State Model for the Distribution of Gas and Magnetic Field in M31 and in Our Galaxy. *E. Battaner & M. L. Sánchez-Saavedra.* 302, 450, 33-B8 (1986)
The Magnetic Field Profiles of NGC 7331, NGC 2841, and NGC 6946: A Theoretical Model. *E. Battaner, E. Florido, & M. L. Sánchez-Saavedra.* 331, 116, 107-C8 (1988)
BATTINELLI, P. Evolutionary Population Synthesis: An Application to Magellanic Cloud Clusters. *P. Battinelli & R. Capuzzo-Dolcetta.* 347, 794, 193-C1 (1989)
Evolutionary Population Synthesis: An Application to Magellanic Cloud Clusters: Erratum. *P. Battinelli & R. Capuzzo-Dolcetta.* 360, 313, 148-G11 (1990) (Orig. paper in 347, 794, 193-C1 (1989))
BATTY, M. J. The Parkes-Tidbinbilla Interferometer. *R. P. Norris, M. J. Kesteven, K. J. Wellington, & M. J. Batty.* 67, 85, 11-D1 (1988)
BATTY, MICHAEL J. Redshifts of Southern Radio Sources. VII. *Graeme L. White, David L. Jauncey, Ann Savage, Alan E. Wright, Michael J. Batty, Bruce A. Peterson, & Sam Gulkis.* 327, 561, 54-G7 (1988)
BATUSKI, D. J. Peculiar Velocities of cD Galaxies: MX Spectroscopy of Abell 1795. *John M. Hill, Paul Hintzen, W. R. Oegerle, W. Romanishin, M. P. Lesser, J. D. Eisenhamer, & D. J. Batuski.* 332, L23, 129-C13 (1988)
BATUSKI, DAVID J. Comparisons of the Spatial Distribution of Abell Clusters against Models with Gaussian Initial Conditions. *David J. Batuski, Adrian L. Melott, & Jack O. Burns.* 322, 48, 138-D12 (1987)
The Correlation Function of Southern Clusters. *Neta A. Bahcall, David J. Batuski, & Ron P. Olowin.* 333, L13, 144-B6 (1988)
A $40h^{-1}$ Mpc Diameter Void in Pisces-Cetus. *Jack O. Burns, J. Ward Moody, Jean P. Brodie, & David J. Batuski.* 335, 542, 178-D7 (1988)
The Distribution of Clusters in the Southern ACO Catalog. *David J. Batuski, Neta A. Bahcall, Ronald P. Olowin, & Jack O. Burns.* 341, 599, 92-F1 (1989)
BAUER, WENDY HAGEN. Line Identifications in the Ultraviolet Spectrum of 31 Cygni. *Wendy Hagen Bauer & Robert E. Stencel.* 69, 667, 11-C1 (1989)
BAUGHER, C. Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher,*

H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina. 310, L61, 138-E4 (1986)

BAUM, STEFI A. Galaxy Collisions and Mergers: The Genesis of Very Powerful Radio Sources? *T. M. Heckman, Eric P. Smith, Stefi A. Baum, W. J. M. van Breugel, G. K. Miley, G. D. Illingworth, G. D. Bothun, & B. Balick.* 311, 526, 153-D2 (1986)

Extended Optical Line Emitting Gas in Radio Galaxies: Broad-Band Optical, Narrow-Band Optical, and Radio Imaging of a Representative Sample. *Stefi A. Baum, Timothy Heckman, Alan Bridle, Wil van Breugel, & George Miley.* 68, 643, 33-B1 (1988)

Extended Optical Line Emitting Gas in Powerful Radio Galaxies: Statistical Properties and Physical Conditions. *Stefi A. Baum & Timothy Heckman.* 336, 681, 11-A1 (1989)

Extended Optical Line Emitting Gas in Powerful Radio Galaxies: What is the Radio Emission-Line Connection? *Stefi A. Baum & Timothy Heckman.* 336, 702, 11-B8 (1989)

Dynamical, Physical, and Chemical Properties of Emission-Line Nebulae in Cooling Flows. *Timothy M. Heckman, Stefi A. Baum, W. J. M. van Breugel, & Patrick McCarthy.* 338, 48, 33-F1 (1989)

Long-Slit Optical Spectroscopy of Emission-Line Nebulae in Radio Galaxies: The Data. *Stefi A. Baum, Timothy Heckman, & Wil van Breugel.* 74, 389, 35-G7 (1990)

BAUM, WILLIAM A. Magnesium Gradients in Elliptical Galaxies. I. Method and Initial Results. *William A. Baum, Bjarne Thomsen, & Brian L. Morgan.* 301, 83, 14-G10 (1986)

Magnesium Gradients in Elliptical Galaxies. II. NGC 4881. *Bjarne Thomsen & William A. Baum.* 315, 460, 45-F10 (1987)

Magnesium Gradients in Elliptical Galaxies. III. Results and Interpretation. *Bjarne Thomsen & William A. Baum.* 347, 214, 184-F8 (1989)

BAUMERT, JOHN H. Variability of Ultraviolet Emission in the Carbon Star TX Piscium. *Hollis R. Johnson, John H. Baumert, François Querci, & Monique Querci.* 311, 960, 158-D1 (1986)

The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

BAUSCHLICHER, CHARLES W., JR. Theoretical Study of the Dissociation Energy and the Red and Violet Band Systems of CN. *Charles W. Bauschlicher, Jr., Stephen R. Langhoff, & Peter R. Taylor.* 332, 531, 128-G11 (1988)

Theoretical Study of the Dipole Moment Function of the $X^2\Sigma^+$ State of CN. *Stephen R. Langhoff & Charles W. Bauschlicher, Jr.* 340, 620, 75-A1 (1989)

Theoretical Study of the Spectroscopy of ZrO. *Stephen R. Langhoff & Charles W. Bauschlicher, Jr.* 349, 369, 18-D8 (1990)

BAYIN, SELÇUK Ş. Symmetry Changes in Friedmann Cosmologies. *Selçuk Ş. Bayin.* 301, 517, 21-D1 (1986)

Anisotropic Fluids and Cosmology. *Selçuk Ş. Bayin.* 303, 101, 42-B6 (1986)

BAYM, GORDON. Vortex Pinning in Neutron Stars. *Richard I. Epstein & Gordon Baym.* 328, 680, 70-E2 (1988)

BAZAN, GRANT. Metallicity-dependent Stellar Ages and the G Dwarf Problem. *Grant Bazan & G. J. Mathews.* 354, 644, 84-C9 (1990)

BAZELL, D. Fractal Structure of Interstellar Cirrus. *D. Bazell & F. X. Désert.* 333, 353, 142-A1 (1988)

An All-Sky Search for Molecular Cirrus Clouds. *F. X. Désert, D. Bazell, & F. Boulanger.* 334, 815, 165-D4 (1988)

CO and *IRAS* Detection of an Intermediate-Velocity Cloud. *F. X. Désert, D. Bazell, & L. Blitz.* 355, L51, 98-E1 (1990)

BAZELL, DAVID. Molecular Clouds without Detectable CO. *Leo Blitz, David Bazell, & F. Xavier Désert.* 352, L13, 55-B11 (1990)

The Effects of Compositional Inhomogeneities and Fractal Dimension on the Optical Properties of Astrophysical Dust. *David Bazell & Eli Dwek.* 360, 142, 146-G3 (1990)

BAZZANO, A. Hard X-Ray Spectrum of Supernova 1987A on Day 407. *P. Ubertini, A. Bazzano, R. Sood, R. Staubert, T. J. Sumner, & G. Frye.* 337, L19, 25-B11 (1989)

Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)

Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)

BEACH, T. E. The Effects of Pulsation-extended Atmospheres on the Apparent Diameters of Mira Variables. *T. E. Beach, L. A. Willson, & G. H. Bowen.* 329, 241, 77-F6 (1988)

BEALL, J. H. On the Short Time Scale Variability of the Seyfert Galaxy NGC 6814. *J. H. Beall, K. S. Wood, & D. J. Yentis.* 308, 563, 115-B1 (1986)

Radiation from Relativistic Beams Interacting with Interstellar Gas. *W. K. Rose, J. H. Beall, J. Guillory, & S. Kainer.* 314, 95, 29-A12 (1987)

The Observational Appearance of Protostellar Accretion Disks. *J. H. Beall.* 316, 227, 52-D10 (1987)

BEARDSLEY, I. S. Epsilon Aurigae: Polarization, Light Curves, and Geometry of the 1982–1984 Eclipse. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, T. B. Ake, T. Simon, & G. W. Collins.* 300, L11, 7-B2 (1986)

Variable Polarization and Activity in Arcturus. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, & D. K. Duncan.* 301, L35, 20-D7 (1986)

SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)

BEATTY, J. J. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

BEATTY, JAMES J. The Isotopes of Hydrogen and Helium in the Galactic Cosmic Radiation: Their Source Abundances and Interstellar Propagation. *James J. Beatty.* 311, 425, 150-F6 (1986)

BEAUJEAN, R. On the Charge State of Anomalous Oxygen. *K. Oschlies, R. Beaujean, & W. Enge.* 345, 776, 160-D1 (1989)

BEAULIEU, SYLVIE. Optical and H I Studies of the "Gas-rich" Dwarf Irregular Galaxy DDO 154. *Claude Carignan & Sylvie Beaulieu.* 347, 760, 192-G1 (1989)

BEAVER, JOHN E. Anomalous Molecular Abundances and the Depletion of NH_2 in Comet P/Giacobini-Zinner. *John E. Beaver, R. Mark Wagner, David G. Schleicher, & Barry L. Lutz.* 360, 696, 154-G1 (1990)

BEAVERS, W. I. V471 Tauri: A Three-Body Orbit. *W. I. Beavers, T. J. Herczeg, & A. Lui.* 300, 785, 11-G1 (1986)

E. W. Fick Observatory Stellar Radial Velocity Measurements. I. 1976–1984. *W. I. Beavers & J. J. Eitter.* 62, 147, 33-E3 (1986)

BECHTOLD, JILL. On the Abundance of Metals and the Ionization State in Absorbing Clouds toward QSOs. *Frederic H. Chaffee, Jr., Craig B. Foltz, Jill Bechtold, & Ray J. Weymann.* 301, 116, 15-C1 (1986)

X-Ray Spectra of PG Quasars. I. The Continuum from X-Rays to the Infrared. *Martin Elvis, Richard F. Green, Jill Bechtold, Maarten Schmidt, G. Neugebauer, B. T. Soifer, K. Matthews, & G. Fabbiano.* 310, 291, 135-B13 (1986)

On the Origin of Some QSO Absorption Lines. *Donald G. York, Michael Dopita, Richard Green, & Jill Bechtold.* 311, 610, 154-E2 (1986)

High-Resolution Spectroscopy of the $z = 1.79$ Absorption-Line System toward B2 1225+317. *Jill Bechtold, Richard F. Green, & D. G. York.* 312, 50, 1-E5 (1987)

X-Ray Spectra of PG Quasars. II. The X-Ray–Ultraviolet Excess of PG 1211+143. *Jill Bechtold, Bozena Czerny, Martin Elvis, G. Fabbiano, & Richard F. Green.* 314, 699, 37-C5 (1987)

The Intergrated Ultraviolet Radiation Field from QSOs. *Jill Bechtold, Ray J. Weymann, Zuo Lin, & Matthew A. Malkan.* 315, 180, 42-A4 (1987)

Weak Bump Quasars. *Jonathan C. McDowell, Martin Elvis, Belinda J. Wilkes, Steven P. Willner, M. S. Oey, Elisha Polomski, Jill Bechtold, & Richard F. Green.* 345, L13, 157-B5 (1989)

IUE Observations of PG 1115+080: The He I Gunn-Peterson Test and a Search for the Lensing Galaxy. *Todd M. Tripp, Richard F. Green, & Jill Bechtold.* 364, L29, 205-C7 (1990)

BECK, KELLY. A Search for Near-Infrared Counterparts of IRAS Embedded Sources in the M17 SW Giant Molecular Cloud. *Debra Meloy Elmegreen, James Phillips, Kelly Beck, Holly Thomas, & Jamie Howard.* 335, 803, 181-D9 (1988)

BECK, S. High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. I. Markarian 279. *D. Maoz, H. Netzer, E. Leibowitz, N. Brosch, A. Laor, H. Mendelson, S. Beck, E. Almoznino, & T. Mazeh.* 351, 75, 39-A5 (1990)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. II. NGC 5548. *H. Netzer, D. Maoz, A. Laor, H. Mendelson, N. Brosch, E. Leibowitz, E. Almoznino, S. Beck, & T. Mazeh.* 353, 108, 63-D7 (1990)

BECK, SARA C. Infrared Spectroscopy of Star Formation in Interacting Galaxies. *Sara C. Beck, Jean L. Turner, & Paul T. P. Ho.* 309, 70, 120-F14 (1986)

Recombination Spectroscopy of Star-Formation Regions in the Nucleus of M83. *Jean L. Turner, Paul T. P. Ho, & Sara C. Beck.* 313, 644, 23-G2 (1987)

Brackett Line Spectroscopy of Bursts of Star Formation in the Nuclei of Galaxies. *Paul T. P. Ho, Sara C. Beck, & Jean L. Turner.* 349, 57, 14-F6 (1990)

BECKER, PETER A. Comptonization in Supercritical Winds. I. Spectral Evolution. *Peter A. Becker & Mitchell C. Begelman.* 310, 534, 139-E10 (1986)

Comptonization in Supercritical Winds. II. Dynamics and Observational Diagnostics. *Peter A. Becker & Mitchell C. Begelman.* 310, 552, 139-G1 (1986)

A Self-consistent Theory of Photohydrodynamical Shocks. *Peter A. Becker.* 327, 772, 57-B5 (1988)

Dynamical Effects of Annihilation in Pair-dominated Winds. *Peter A. Becker & Mitchell C. Begelman.* 364, 203, 196-E7 (1990)

BECKER, R. H. X-Ray Spectral Observations of the Crab-like Supernova Remnants G21.5–0.9 and 3C 58. *J. Davelaar, A. Smith, & R. H. Becker.* 300, L59, 13-D10 (1986)

G0:9+0.1 and the Emerging Class of Composite Supernova Remnants. *D. J. Helfand & R. H. Becker.* 314, 203, 30-C10 (1987)

VLA Observations of the Fast Pulsar Candidate in M28. *W. C. Erickson, M. J. Mahoney, R. H. Becker, & D. J. Helfand.* 314, L45, 39-B9 (1987)

High-Resolution Radio Obvservations of the Supernova Remnant G24.7+0.6 and the Discovery of an Ultracompact H II Region. *R. H. Becker & D. J. Helfand.* 316, 660, 59-C10 (1987)

The Prevalence of Supernova Remnants among Unidentified Galactic Radio Sources. *David J. Helfand, T. Velusamy, R. H. Becker, & Felix J. Lockman.* 341, 151, 85-G1 (1989)

A 20 Centimeter Survey of Compact Sources in the Northern Galactic Plane. *R. H. Becker, R. L. White, B. J. McLean, D. J. Helfand, & S. Zoonematkermani.* 358, 485, 129-E10 (1990)

A Catalog of Small-Diameter Radio Sources in the Galactic Plane. *S. Zoonematkermani, D. J. Helfand, R. H. Becker, R. L. White, & R. A. Perley.* 74, 181, 32-E11 (1990)

BECKER, ROBERT. Direct Imaging at 12 Microns of the Star-forming Region W51 IRS 2. *John Bally, John F. Arens, Roger Ball, Robert Becker, & John Lacy.* 323, L73, 158-F1 (1987)

BECKER, ROBERT H. Discovery of Fast-moving Nitrogen-rich Ejecta in the Supernova Remnant Cassiopeia A. *Robert A. Fesen, Robert H. Becker, & William P. Blair.* 313, 378, 19-B3 (1987)

LkHα 101: The Stellar Wind, the Surrounding Nebula, and an Associated Radio Star Cluster. *Robert H. Becker & Richard L. White.* 324, 893, 13-C5 (1988)

Highest Velocity Ejecta of Cassiopeia A. *Robert A. Fesen, Robert H. Becker, & Robert W. Goodrich.* 329, L89, 89-D3 (1988)

G70.68+12: A Pre–Main-Sequence Star with a Bright Optical and Radio Emission Shell. *Robert H. Becker & Robert A. Fesen.* 334, L35, 161-D5 (1988)

High-Velocity, Nonradiative Shock Emission in Kepler's Supernova Remnant. *Robert A. Fesen, Robert H. Becker, William P. Blair, & Knox S. Long.* 338, L13, 40-C6 (1989)

Optical Detection of the Remnant of SN 1980K in NGC 6946. *Robert A. Fesen & Robert H. Becker.* 351, 437, 45-E1 (1990)

BECKER, S. A. Evolution of Cepheids. I. The Effects of an Enhanced $^{12}C(\alpha,\gamma)^{16}O$ Rate. *W. M. Brunish & S. A. Becker.* 351, 258, 41-C1 (1990)

BECKERS, J. M. Two-dimensional Images of Alpha Orionis. *J. C. Hebden, J. C. Christou, A. Y. S. Cheng, E. K. Hege, P. A. Strittmatter, J. M. Beckers, & H. P. Murphy.* 309, 745, 129-D5 (1986)

BECKERS, JACQUES M. The Magnetic Field of the BY Draconis Flare Star EQ Virginis. *Steven H. Saar, Jeffrey L. Linsky, & Jacques M. Beckers.* 302, 777, 39-B12 (1986)

BECKLIN, E. E. IRAS 04238+5336: A Young Reflection Nebula Surrounding a Double Star. *C. G. Wynn-Williams, J. N. Heasley, D. L. DePoy, G. J. Hill, & E. E. Becklin.* 304, 409, 58-C12 (1986)

Simultaneous Submillimeter and Infrared Observations of Flat-Spectrum Radio Sources. *T. L. Roellig, E. E. Becklin, C. D. Impey, & M. W. Werner.* 304, 646, 63-B4 (1986)

The 2 Micron Spectrum of NGC 6240: Evidence for More than a Starburst. *D. L. DePoy, E. E. Becklin, & C. G. Wynn-Williams.* 307, 116, 96-C10 (1986)

Extreme Limb Profiles of the Sun at Far-Infrared and Submillimeter Wavelengths. *C. Lindsey, E. E. Becklin, F. Q. Orrall, M. W. Werner, J. T. Jefferies, & I. Gatley.* 308, 448, 112-G13 (1986)

Infrared and Radio Emission from II Zw 40 and Other Blue Dwarf Galaxies. *C. G. Wynn-Williams & E. E. Becklin.* 308, 620, 115-F10 (1986)

Infrared Studies of Elliptical Galaxies. I. An Optically Selected Sample. *C. D. Impey, C. G. Wynn-Williams, & E. E. Becklin.* 309, 572, 127-D12 (1986)

Infrared Characteristics of the Nuclei of Normal Galaxies. *Nicholas A. Devereux, E. E. Becklin, & Nick Scoville.* 312, 529, 8-F3 (1987)

IRAS 23060+0505: A Highly Obscured 3.3×10^{12} $L_{\odot}$ Active Galaxy. *G. J. Hill, C. G. Wynn-Williams, & E. E. Becklin.* 316, L11, 56-A14 (1987)

Discovery of Broad Brackett-α Emission in Arp 220. *D. L. DePoy, E. E. Becklin, & T. R. Geballe.* 316, L63, 62-B8 (1987)

A Search for Brown Dwarfs and Late M Dwarfs in the Hyades and the Pleiades. *B. Zuckerman & E. E. Becklin.* 319, L99, 107-F9 (1987)

Lunar Occultation of the Galactic Center at 2.2 Microns. *D. J. Adams, E. E. Becklin, R. F. Jameson, A. J. Longmore, Aa. Sandqvist, & E. Valentijn.* 327, L65, 61-C11 (1988)

The Properties and Environment of the Giant, Infrared-Luminous Galaxy IRAS 09104+4109. *S. G. Kleinmann, Donald Hamilton, W. C. Keel, C. G. Wynn-Williams, S. A. Eales, E. E. Becklin, & K. D. Kuntz.* 328, 161, 63-F11 (1988)

Infrared Sizes and Colors of Selected *IRAS* Galaxies. *G. J. Hill, E. E. Becklin, & C. G. Wynn-Williams.* 330, 737, 100-E6 (1988)

Infrared Spectroscopy, Imaging, and 10 Micron Photometry of Giclas 29-38. *A. T. Tokunaga, K.-W. Hodapp, E. E. Becklin, D. P. Cruikshank, M. Rigler, D. Toomey, R. H. Brown, & B. Zuckerman.* 332, L71, 137-D1 (1988)

The Nature of the Extended Emission Features in IRAS 04210+0400. *G. J. Hill, C. G. Wynn-Williams, E. E. Becklin, & J. W. MacKenty.* 335, 93, 171-C3 (1988)

Infrared Array Imaging and Spectrophotometry of the Nuclear Region of the "Hot Spot" Galaxy NGC 2903. *D. A. Simons, D. L. DePoy, E. E. Becklin, R. W. Capps, K.-W. Hodapp, & D. N. B. Hall.* 335, 126, 171-F9 (1988)

Stellar Kinematics in the Galactic Center. *M. T. McGinn, K. Sellgren, E. E. Becklin, & D. N. B. Hall.* 338, 824, 44-B7 (1989)

Far-Infrared Intensity Variations Caused by 5 Minute Oscillations. *C. Lindsey, G. Kopp, E. E. Becklin, T. Roellig, M. W. Werner, J. T. Jefferies, F. Q. Orrall, D. Braun, & D. L. Mickey.* 350, 475, 30-G1 (1990)

Infrared Studies of Elliptical Galaxies. II. A Radio-selected Sample. *C. D. Impey, C. G. Wynn-Williams, & E. E. Becklin.* 356, 62, 99-G1 (1990)

The Infrared Spectrum of G29–38. *A. T. Tokunaga, E. E. Becklin, & B. Zuckerman.* 358, L21, 127-C6 (1990)

Velocity Dispersion and the Stellar Population in the Central 1.2 Parsecs of the Galaxy. *K. Sellgren, M. T. McGinn, E. E. Becklin, & D. N. B. Hall.* 359, 112, 135-D9 (1990)

High-Resolution Infrared Mapping of the Galactic Center: Imaging and Lunar Occultations. *D. A. Simons, K.-W. Hodapp, & E. E. Becklin.* 360, 106, 146-D1 (1990)

The Subarcsecond Infrared Structures at the Centers of Infrared-luminous Galaxies. *S. A. Eales, E. E. Becklin, K.-W. Hodapp, D. A. Simons, & C. G. Wynn-Williams.* 365, 478, 214-A12 (1990)

BECKMAN, J. E. Mg II Observed in the Local Interstellar Medium: The Local Cloud. *R. Génova, P. Molaro, G. Vladilo, & J. E. Beckman.* 355, 150, 88-G2 (1990)

Circular Polarization of the Ca II H and K Lines in Solar Quiet and Active Regions. *V. Martínez Pillet, R. J. García López, J. C. del Toro Iniesta, R. Rebolo, M. Vázquez, J. E. Beckman, & S. Char.* 361, L81, 168-F6 (1990)

BECKMAN, JOHN E. Star Formation Triggering by Density Waves in the Grand Design Spirals NGC 3992 and NGC 628. *Jordi Cepa & John E. Beckman.* 349, 497, 21-D11 (1990)

BECKWITH, S. Molecular Gas in the Type 1 Seyfert Galaxy NGC 7469: Implications for Nuclear Activity. *T. M. Heckman, S. Beckwith, L. Blitz, M. Skrutskie, & A. S. Wilson.* 305, 157, 68-F2 (1986)

Small-Scale Structure of the Circumstellar Gas of HL Tauri and R Monocerotis. *S. Beckwith, A. I. Sargent, N. Z. Scoville, C. R. Masson, B. Zuckerman, & T. G. Phillips.* 309, 755, 129-E3 (1986)

Observations of Infrared Emission Lines and Radio Continuum Emission from Pre–Main-Sequence Objects. *Neal J. Evans II, Russell M. Levreault, S. Beckwith, & Mike Skrutskie.* 320, 364, 112-A9 (1987)

BECKWITH, STEVEN. Kinematics of the Circumstellar Gas of HL Tauri and R Monocerotis. *Anneila I. Sargent & Steven Beckwith.* 323, 294, 156-C5 (1987)

Small-Scale Structure of the Circumstellar Gas around L1551 IRS 5. *Anneila I. Sargent, Steven Beckwith, Jocelyn Keene, & Colin Masson.* 333, 936, 150-E6 (1988)

BECKWITH, STEVEN V. W. Tomographic Imaging of HL Tauri. *Steven V. W. Beckwith, Anneila I. Sargent, C. D. Koresko, & D. A. Weintraub.* 343, 393, 123-A4 (1989)

BEECH, MARTIN. On the Lack of Evidence for Nonradial Pulsation in Wolf-Rayet Stars. *Jaymie M. Matthews & Martin Beech.* 313, L25, 21-B12 (1987)

Effect of Mass Loss and Overshooting on the Width of the Main Sequence of Massive Stars. *Martin Beech & R. Mitalas.* 352, 291, 53-D12 (1990)

BEECK, J. Pitch Angle Distributions of Solar Energetic Particles and the Local Scattering Properties of the Interplanetary Medium. *J. Beeck & G. Wibberenz.* 311, 437, 150-G4 (1986)

A Multispacecraft Study of the Injection and Transport of Solar Energetic Particles. *J. Beeck, G. M. Mason, D. C. Hamilton, G. Wibberenz, H. Kunow, D. Hovestadt, & B. Klecker.* 322, 1052, 151-D14 (1987)

BEER, H. The ^{151}Sm Branching: A Probe for the Irradiation Time Scale of the *s*-Process. *H. Beer & R. L. Macklin.* 331, 1047, 120-E1 (1988)

Measurement of the ^{85}Rb and ^{87}Rb Capture Cross Sections for *s*-Process Studies. *H. Beer & R. L. Macklin.* 339, 962, 63-E9 (1989)

^{88}Sr and ^{89}Y: The *s*-Process at Magic Neutron Number $N = 50$. *F. Käppeler, W. R. Zhao, H. Beer, & U. Ratzel.* 355, 348, 91-B12 (1990)

BEER, REINHARD. The Detection of High-Velocity Outflows from M8E-IR. *George F. Mitchell, Mark Allen, Reinhard Beer, Richard Dekany, Wesley Huntress, & Jean-Pierre Maillard.* 327, L17, 53-B6 (1988)

Hot and Cold Gas toward Young Stellar Objects. *George F. Mitchell, Jean-Pierre Maillard, Mark Allen, Reinhard Beer, & Kenneth Belcourt.* 363, 554, 191-A9 (1990)

BEERS, T. C. An X-Ray and Optical Study of the Cluster of Galaxies Abell 754. *D. Fabricant, T. C. Beers, M. J. Geller, P. Gorenstein, J. P. Huchra, & M. J. Kurtz.* 308, 530, 114-F4 (1986)

BEERS, TIMOTHY C. Density Cusps in Clusters of Galaxies. *Timothy C. Beers & John L. Tonry.* 300, 557, 9-B13 (1986)

A Redshift Survey of Low Surface Brightness Galaxies. II. Do They Fill the Voids? *Gregory D. Bothun, Timothy C. Beers, Jeremy R. Mould, & John P. Huchra.* 308, 510, 114-D12 (1986)

A Catalog of Candidate Field Horizontal-Branch Stars. I. *Timothy C. Beers, George W. Preston, & Stephen A. Shectman.* 67, 461, 18-D1 (1988)

Evidence for Clustering of Field Horizontal-Branch Stars in the Galactic Halo. *Steve P. Doinidis & Timothy C. Beers.* 340, L57, 83-B10 (1989)

A Catalog of Candidate Field Horizontal-Branch Stars. I: Erratum. *Timothy C. Beers, George W. Preston, & Stephen A. Shectman.* 70, 679, 28-A1 (1989) (Orig. paper in 67, 461, 18-D1 (1988))

BEESHAM, A. Conservation Laws and Radiation in the Scale Covariant Theory of Gravitation. *A. Beesham.* 327, 40, 47-D7 (1988)

Kinematical Quantities in the Scale Covariant Theory of Gravitation. *A. Beesham.* 327, 44, 47-D11 (1988)

BEGELMAN, MITCHELL C. SN 1985f: Death of a Wolf-Rayet Star. *Mitchell C. Begelman & Craig L. Sarazin.* 302, L59, 40-E8 (1986)

Compton-heated Winds and Coronae above Accretion Disks. III. Instability and Oscillations. *G. A. Shields, Christopher F. McKee, D. N. C. Lin, & Mitchell C. Begelman.* 306, 90, 82-C3 (1986)

An X-Ray Heated Wind in NGC 1068. *Julian H. Krolik & Mitchell C. Begelman.* 308, L55, 120-F4 (1986)

Comptonization in Supercritical Winds. I. Spectral Evolution. *Peter A. Becker & Mitchell C. Begelman.* 310, 534, 139-E10 (1986)

Comptonization in Supercritical Winds. II. Dynamics and Observational Diagnostics. *Peter A. Becker & Mitchell C. Begelman.* 310, 552, 139-G1 (1986)

Thermal and Dynamical Effects of Pair Production on Two-Temperature Accretion Flows. *Mitchell C. Begelman, Marek Sikora, & Martin J. Rees.* 313, 689, 24-C12 (1987)

Broad, Variable Absorption Lines in the Seyfert Galaxy NGC 3516: Probing the Structure of the Emssion-Line Regions. *G. Mark Voit, J. Michael Shull, & Mitchell C. Begelman.* 316, 573, 58-C5 (1987)

Electron Injection by Relativistic Protons in Active Galactic Nuclei. *Marek Sikora, John G. Kirk, Mitchell C. Begelman, & Peter Schneider.* 320, L81, 121-B1 (1987)

Inverse Compton Scattering of Ambient Radiation by a Cold Relativistic Jet: A Source of Beamed, Polarized X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *Mitchell C. Begelman, Marek Sikora, P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 650, 146-G12 (1987)

Molecular Tori in Seyfert Galaxies: Feeding the Monster and Hiding It. *Julian H. Krolik & Mitchell C. Begelman.* 329, 702, 84-D2 (1988)

Thermal Coupling of Ions and Electrons by Collective Effects in Two-Temperature Accretion Flows. *Mitchell C. Begelman & Tzihong Chiueh.* 332, 872, 134-A8 (1988)

Self-absorbed Synchrotron Sources in Active Galactic Nuclei. *Martijn de Kool, Mitchell C. Begelman, & Marek Sikora.* 337, 66, 17-G5 (1989)

Evolution of Self-Gravitating Accretion Disks in Active Galactic Nuclei. *Isaac Shlosman & Mitchell C. Begelman.* 341, 685, 93-G1 (1989)

Relativistic Neutrons in Active Galactic Nuclei. *Marek Sikora, Mitchell C. Begelman, & Bronislaw Rudak.* 341, L33, 99-E1 (1989)

Effects of Thermal Plasma on Self-absorbed Synchrotron Sources in Active Galactic Nuclei. *Martijn de Kool & Mitchell C. Begelman.* 345, 135, 150-F4 (1989)

Overpressured Cocoons in Extragalactic Radio Sources. *Mitchell C. Begelman & Denis F. Cioffi.* 345, L21, 157-B12 (1989)

Shock-Drift Particle Acceleration in Superluminal Shocks: A Model for Hot Spots in Extragalactic Radio Sources. *Mitchell C. Begelman & John G. Kirk.* 353, 66, 62-G9 (1990)

Global Effects of Thermal Conduction on Two-Phase Media. *Mitchell C. Begelman & Christopher F. McKee.* 358, 375, 128-C1 (1990)

Steady Evaporation and Condensation of Isolated Clouds in Hot Plasma. *Christopher F. McKee & Mitchell C. Begelman.* 358, 392, 128-D6 (1990)

Consequences of Relativistic Proton Injection in Active Galactic Nuclei. *Mitchell C. Begelman, Bronisław Rudak, & Marek Sikora.* 362, 38, 169-E3 (1990)

Dynamical Effects of Annihilation in Pair-dominated Winds. *Peter A. Becker & Mitchell C. Begelman.* 364, 203, 196-E7 (1990)

BEGEMANN, F. Discovery of *s*-Process Barium in the Murchison Meteorite. *U. Ott & F. Begemann.* 353, L57, 73-D1 (1990)

BEICHMAN, C. *IRAS* Observations of R Coronae Borealis—Detection and Study of a Fossil Shell. *F. C. Gillett, D. E. Backman, C. Beichman, & G. Neugebauer.* 310, 842, 143-B6 (1986)

Small Grains and *IRAS* Colors. *F. Boulanger, C. Beichman, F. X. Désert, G. Helou, M. Pérault, & C. Ryter.* 332, 328, 126-F10 (1988)

BEICHMAN, C. A. Candidate Solar-Type Protostars in Nearby Molecular Cloud Cores. *C. A. Beichman, P. C. Myers, J. P. Emerson, S. Harris, R. Mathieu, P. J. Benson, & R. E. Jennings.* 307, 337, 98-F13 (1986)

Extended Far-Infrared Emission Associated with Mass Outflows from Young Stars: L1551 IRS 5. *S. Edwards, S. E. Strom, R. L. Snell, T. H. Jarrett, C. A. Beichman, & K. M. Strom.* 307, L65, 107-C10 (1986)

Discovery of an Infrared-loud Quasar. *C. A. Beichman, B. T. Soifer, G. Helou, T. J. Chester, G. Neugebauer, F. C. Gillett, & F. J. Low.* 308, L1, 113-E11 (1986)

Near-Infrared and Optical Observations of IRAS Sources in and near Dense Cores. *P. C. Myers, Gary A. Fuller, R. D. Mathieu, C. A. Beichman, P. J. Benson, R. E. Schild, & J. P. Emerson.* 319, 340, 96-F5 (1987)

The Radio Properties of Galaxies with High Far-Infrared Luminosities. *S. A. Eales, C. G. Wynn-Williams, & C. A. Beichman.* 328, 530, 68-G9 (1988)

Infrared Limb Brightening in the Barnard 5 Cloud. *C. A. Beichman, R. W. Wilson, W. D. Langer, & P. F. Goldsmith.* 332, L81, 137-D10 (1988)

Dust and Gas Emission in Barnard 5. *W. D. Langer, R. W. Wilson, P. F. Goldsmith, & C. A. Beichman.* 337, 355, 21-F10 (1989)

A Very Deep *IRAS* Survey. III. VLA Observations. *Perry Hacking, J. J. Condon, J. R. Houck, & C. A. Beichman.* 339, 12, 50-B6 (1989)

A Reexamination of Luminosity Sources in T Tauri Stars. I. Taurus-Auriga. *Martin Cohen, J. P. Emerson, & C. A. Beichman.* 339, 455, 55-E11 (1989)

The Circumstellar Environment of TMR-1: A Young Low-Mass Star in the Taurus Molecular Ring. *S. Terebey, C. A. Beichman, T. N. Gautier, & J. J. Hester.* 362, L63, 181-D1 (1990)

BEICHMAN, CHARLES A. Infrared and Optical Imagery of the Crab Nebula. *J. Jeff Hester, James R. Graham, Charles A. Beichman, & T. N. Gautier III.* 357, 539, 119-C7 (1990)

BEIER, E. W. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

BEKENSTEIN, JACOB D. Helicity Conservation Laws for Fluids and Plasmas. *Jacob D. Bekenstein.* 319, 207, 95-C4 (1987)

On the Prevalence of r^{-3} Density Profiles in Extragalactic Systems. *Eyal Maoz & Jacob D. Bekenstein.* 353, 59, 62-G1 (1990)

Dynamical Friction in Binary Systems. *Jacob D. Bekenstein & Ran Zamir.* 359, 427, 141-C13 (1990)

BELCOURT, KENNETH. Hot and Cold Gas toward Young Stellar Objects. *George F. Mitchell, Jean-Pierre Maillard, Mark Allen, Reinhard Beer, & Kenneth Belcourt.* 363, 554, 191-A9 (1990)

BELKORA, L. Radio Interferometry by Lunar Reflections. *T. Hagfors, J. A. Phillips, & L. Belkora.* 362, 308, 173-A7 (1990)

BELL, M. B. Detection of the Hydrocarbon Ring Molecule C_3H_2 in the Radio Galaxy Centaurus A (= NGC 5128). *E. R. Seaquist & M. B. Bell.* 303, L67, 53-E2 (1986)

Detection of Deuterated Cyclopropenylidene (C_3HD) in TMC-1. *M. B. Bell, P. A. Feldman, H. E. Matthews, & L. W. Avery.* 311, L89, 160-F2 (1986)

A Study of C_3HD in Cold Interstellar Clouds. *M. B. Bell, L. W. Avery, H. E. Matthews, P. A. Feldman, J. K. G. Watson, S. C. Madden, & W. M. Irvine.* 326, 924, 43-F2 (1988)

Detection of C_3H_2 Emission in the Radio Galaxy Centaurus A (=NGC 5128). *M. B. Bell & E. R. Seaquist.* 329, L17, 81-B7 (1988)

Molecular Absorption by the Dust Lane and Nuclear Region of Centaurus A. *E. R. Seaquist & M. B. Bell.* 364, 94, 195-B8 (1990)

BELL, MARYLIN. IC 4767 (the "X-Galaxy"): The Missing Link for Understanding Galaxies with Peanut-shaped Bulges? *Bradley C. Whitmore & Marylin Bell.* 324, 741, 11-D10 (1988)

Photometric Properties of Galaxies in the Cluster DC 1842–63. *Marylin Bell & Bradley C. Whitmore.* 70, 139, 18-F11 (1989)

BELL, R. A. The C, N, and O Abundances of Giant Stars in ω Centauri. *J. G. Cohen & R. A. Bell.* 305, 698, 76-E1 (1986)

Analysis of Four F Subdwarfs Used as Spectrophotometric Standards. *R. A. Bell & J. B. Oke.* 307, 253, 97-G1 (1986)

Mass Functions for Globular Cluster Main Sequences Based on CCD Photometry and Stellar Models. *Robert D. McClure, Don A. VandenBerg, Graeme H. Smith, Gregory G. Fahlman, Harvey B. Richer, James E. Hesser, William E. Harris, Peter B. Stetson, & R. A. Bell.* 307, L49, 107-B10 (1986)

Theoretical Isochrones for Globular Clusters with Predicted Thuan-Gunn Photometry. *R. A. Bell & Don A. VandenBerg.* 63, 335, 5-D10 (1987)

The Period-Luminosity Relation for Cepheid Variable Stars. *R. B. Hindsley & R. A. Bell.* 341, 1004, 97-E8 (1989)

The Cepheid Infrared Period-Luminosity Relations. *R. B. Hindsley & R. A. Bell.* 348, 673, 11-A7 (1990)

An Analysis of G-Band Strengths in NGC 6397 and M55 Red Giants. *Michael M. Briley, R. A. Bell, Susan Hoban, & R. J. Dickens.* 359, 307, 139-G10 (1990)

BELL, ROGER A. CN and CH Variations among Subgiants in the Globular Cluster 47 Tucanae. *Graeme H. Smith, Roger A. Bell, & James E. Hesser.* 341, 190, 86-C5 (1989)

Variations in $^{12}C/^{13}C$ as an Explanation for the 3883 Å CN-Bimodality among 47 Tucanae Subgiants. *Michael M. Briley, Roger A. Bell, Graeme H. Smith, & James E. Hesser.* 341, 800, 95-B6 (1989)

BELLA, G. Searches for Narrow-Angle Anisotropies in the Primary Energy Range 0.1–10 TeV: Erratum. *O. C. Allkofer, W. D. Dau, H. Jokisch, G. Klemke, R. C. Uhr, G. Bella, & Y. Oren.* 305, 954, 79-D10 (1986) (Orig. paper in 291, 468, 40-A2 (1985))

BELLIN, ANDREW D. Statistical Evidence That Galaxy Companions Trigger Bars and Change the Spiral Hubble Type. *Debra Meloy Elmegreen, Bruce G. Elmegreen, & Andrew D. Bellin.* 364, 415, 201-B6 (1990)

BELLONI, T. X-Ray Spectrum and Variability of the Black Hole Candidate LMC X-3. *A. Treves, T. Belloni, L. Chiappetti, L. Maraschi, L. Stella, E. G. Tanzi, & M. van der Klis.* 325, 119, 20-D8 (1988)

The Ultraviolet-Optical-Infrared Energy Distribution of LMC X-3: Observation of an Accretion Disk around a Black Hole. *A. Treves, T. Belloni, P. Bouchet, L. Chiappetti, R. Falomo, L. Maraschi, & E. G. Tanzi.* 335, 142, 172-A1 (1988)

X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215–086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)

BELMONTE, JUAN A. Global Acoustic Oscillations on α Bootis. *Juan A. Belmonte, Andrew R. Jones, Pere L. Pallé, & Teodoro Roca Cortés.* 358, 595, 131-A1 (1990)

BELTON, MICHAEL J. S. Abundances in Comet Halley at the Time of the Spacecraft Encounters. *Susan Wyckoff, Stephen Tegler, Peter A. Wehinger, Hyron Spinrad, & Michael J. S. Belton.* 325, 927, 30-F9 (1988)

BENACQUISTA, M. A Many-Body Lagrangian for Celestial Body Dynamics to Second Post-Newtonian Linear Field Order. *M. Benacquista & K. Nordtvedt.* 328, 588, 69-E6 (1988)

BENCIVENNI, D. The Effect of Enhanced α-Elements in Helium-burning Population II Stars. *D. Bencivenni, V. Castellani, A. Tornambè, & A. Weiss.* 71, 109, 35-D3 (1989)

BENDER, P. L. Gravitational Radiation from the Galaxy. *D. Hils, P. L. Bender, & R. F. Webbink.* 360, 75, 146-A6 (1990)

BENDINELLI, O. Deconvolution of Elliptical Nuclei of Galaxies: Application to M81. *O. Bendinelli, G. Parmeggiani, & F. Zavatti.* 308, 611, 115-E14 (1986)

Deconvolution of Elliptical Nuclei of Galaxies: Application to M81: Erratum. *O. Bendinelli, G. Parmeggiani, & F. Zavatti.* 315, 408, 44-C14 (1987) (Orig. paper in 308, 611, 115-E14 (1986))

BENFORD, GREGORY. The Collective Emission of Electromagnetic Waves from Astrophysical Jets: Luminosity Gaps, BL Lacertae Objects, and Efficient Energy Transport. *D. N. Baker, Joseph E. Borovsky, Gregory Benford, & Jean A. Eilek.* 326, 110, 33-C7 (1988)

An Electrodynamic Model of the Galactic Center. *Gregory Benford.* 333, 735, 148-C7 (1988)

Solar Coronal Loop Heating by Cross-Field Wave Transport. *Peter Amendt & Gregory Benford.* 341, 1082, 98-E4 (1989)

BENFORD, RICHARD. Measurements of the Anisotropy of the Cosmic Background Radiation and Diffuse Galactic Emission at Millimeter and Submillimeter Wavelengths. *Mark Halpern, Richard Benford, Stephan Meyer, Dirk Muehlner, & Rainer Weiss.* 332, 596, 130-F12 (1988)

BENGSTON, R. D. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2–2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

BENITZ, KARSTEN J. A Search for Substellar Companions to Low-Mass Stars. *Geoffrey W. Marcy & Karsten J. Benitz.* 344, 441, 138-D7 (1989)

BEN JAFFEL, L. A New Method for the Resolution of the Radiative Transfer Equation in Three-dimensional Geometry. I. Theory. *L. Ben Jaffel & A. Vidal-Madjar.* 350, 801, 36-A1 (1990)

BENNETT, A. Deuterium Fractionation in Dense Interstellar Clouds. *T. J. Millar, A. Bennett, & Eric Herbst.* 340, 906, 79-F1 (1989)

BENNETT, C. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

BENNETT, C. L. The MIT–Green Bank (MG) 5 GHz Survey. *C. L. Bennett, C. R. Lawrence, B. F. Burke, J. N. Hewitt, & J. Mahoney.* 61, 1, 16-A6 (1986)

5 GHz Radio Structure and Optical Identifications of Sources from the MG Survey. II. Maps and Finding Charts. *C. R. Lawrence, C. L. Bennett, J. N. Hewitt, G. I. Langston, S. E. Klotz, B. F. Burke, & K. C. Turner.* 61, 105, 18-A5 (1986)

The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

Detection of the $2_{20} \rightarrow 2_{21}$ Transition of HDO in Orion A: Evidence for Dense Clumped Gas in the Hot Core. *S. J. Petuchowski & C. L. Bennett.* 326, 376, 36-D1 (1988)

Formaldehyde Absorption toward W51. *A. Kogut, G. F. Smoot, C. L. Bennett, & S. J. Petuchowski.* 346, 763, 176-G2 (1989)

In Situ Measurement of the Cosmic Microwave Background Temperature at a Distance of 7.5 Kiloparsecs. *A. Kogut, S. J. Petuchowski, C. L. Bennett, & G. F. Smoot.* 348, L45, 13-A10 (1990)

A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

BENNETT, CHARLES L. Spheromak Model of Planetary Nebulae. *Charles L. Bennett.* 323, L123, 164-C7 (1987)

BENNETT, DAVID P. Topology of Microwave Background Fluctuations: Theory. *J. Richard Gott III, Changbom Park, Roman Juszkiewicz, William E. Bies, David P. Bennett, François R. Bouchet, & Albert Stebbins.* 352, 1, 50-A11 (1990)

Galaxy Formation from Kinky Cosmic Strings. *François R. Bouchet & David P. Bennett.* 354, L41, 86-B5 (1990)

BENNETT, J. Continuum Energy Distributions of Quasars in the Palomar-Green Survey. *G. Neugebauer, R. F. Green, K. Matthews, M. Schmidt, B. T. Soifer, & J. Bennett.* 63, 615, 10-A7 (1987)

BENNETT, JEFFREY O. *IUE* and *Einstein* Survey of Late-Type Giant and Supergiant Stars and the Dividing Line. *Bernhard M. Haisch, Jay A. Bookbinder, A. Maggio, G. S. Vaiana, & Jeffrey O. Bennett.* 361, 570, 165-B8 (1990)

BENSADOUN, M. A Measurement of the Cosmic Microwave Background Radiation Temperature at 1.410 GHz. *S. M. Levin, C. Witebsky, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, & G. F. Smoot.* 334, 14, 154-B9 (1988)

A Measurement of the Temperature of the Cosmic Microwave Background at a Frequency of 7.5 GHz. *A. Kogut, M. Bensadoun, G. De Amici, S. Levin, G. F. Smoot, & C. Witebsky.* 355, 102, 88-C6 (1990)

BENSADOUN, MARC. Long-Wavelength Measurements of the Cosmic Microwave Background Radiation Spectrum. *George F. Smoot, Marc Bensadoun, Marco Bersanelli, Giovanni De Amici, Alan Kogut, Steve Levin, & Chris Witebsky.* 317, L45, 78-A9 (1987)

Measurements of the Cosmic Microwave Background Radiation Temperature at 90 GHz. *Marco Bersanelli, Chris Witebsky, Marc Bensadoun, Giovanni De Amici, Al Kogut, Steven M. Levin, & George F. Smoot.* 339, 632, 59-F7 (1989)

The Temperature of the Cosmic Background Radiation: Results from the 1987 and 1988 Measurements at 3.8 GHz. *Giovanni De Amici, Marc Bensadoun, Marco Bersanelli, Al Kogut, Steve Levin, George F. Smoot, & Chris Witebsky.* 359, 219, 136-G1 (1990)

BENSON, J. The Infrared Coronal Lines of Recent Novae. *Matthew A. Greenhouse, G. L. Grasdalen, C. E. Woodward, J. Benson, R. D. Gehrz, E. Rosenthal, & M. F. Skrutskie.* 352, 307, 53-F1 (1990)

Speckle Observations of the Central Region of NGC 4151. *G. R. Ayers, J. Benson, K. Carels, H. M. Dyck, & E. Spillar.* 360, 471, 152-B9 (1990)

BENSON, J. A. Infrared Speckle Observations of the Nucleus of M31. *E. J. Spillar, R. Canterna, K. H. Carels, J. A. Benson, & H. M. Dyck.* 349, L13, 19-B11 (1990)

Discovery of Five Pre–Main-Sequence Binaries in Taurus. *W.-P. Chen, M. Simon, A. J. Longmore, R. R. Howell, & J. A. Benson.* 357, 224, 113-G5 (1990)

BENSON, J. M. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

The Radio Morphology of 3C 120 on Scales from 0.5 Parsecs to 400 Kiloparsecs. *R. C. Walker, J. M. Benson, & S. C. Unwin.* 316, 546, 58-A5 (1987)

The Size of the $z = 0.437$ H I Absorption Region toward the QSO 3C 196. *R. L. Brown, J. J. Broderick, K. J. Johnston, J. M. Benson, K. J. Mitchell, & E. B. Waltman.* 329, 138, 76-E3 (1988)

VLBI and MERLIN Observations of 3C 120 at 1.7 GHz: Superluminal Motions beyond 0".05. *J. M. Benson, R. C. Walker, S. C. Unwin, T. W. B. Muxlow, P. N. Wilkinson, R. S. Booth, G. Pilbratt, & R. S. Simon.* 334, 560, 162-D9 (1988)

BENSON, JOHN M. Interstellar Scattering of Compact Radio Sources near Supernova Remnants. *Steven R. Spangler, Robert L. Mutel, John M. Benson, & James M. Cordes.* 301, 312, 17-C8 (1986)

Evidence for Superluminal Motion on Kiloparsec Scales in 3C 120. *R. Craig Walker, Mark A. Walker, & John M. Benson.* 335, 668, 179-G4 (1988)

BENSON, P. J. Candidate Solar-Type Protostars in Nearby Molecular Cloud Cores. *C. A. Beichman, P. C. Myers, J. P. Emerson, S. Harris, R. Mathieu, P. J. Benson, & R. E. Jennings.* 307, 337, 98-F13 (1986)

Near-Infrared and Optical Observations of IRAS Sources in and near Dense Cores. *P. C. Myers, Gary A. Fuller, R. D. Mathieu, C. A. Beichman, P. J. Benson, R. E. Schild, & J. P. Emerson.* 319, 340, 96-F5 (1987)

A Survey for Dense Cores in Dark Clouds. *P. J. Benson & P. C. Myers.* 71, 89, 34-C7 (1989)

BENSON, PRISCILLA J. A Water Maser Associated with EU Andromedae: A Carbon Star near an Oxygen-rich Circumstellar Shell. *Priscilla J. Benson & Irene R. Little-Marenin.* 316, L37, 56-C13 (1987)

L43: An Example of Interaction between Molecular Outflows and Dense Cores. *Robert D. Mathieu, Priscilla J. Benson, Gary A. Fuller, Philip C. Myers, & Rudolph E. Schild.* 330, 385, 94-E1 (1988)

Masers Associated with Two Carbon Stars: V778 Cygni and EU Andromedae. *Irene R. Little-Marenin, Priscilla J. Benson, & Dale F. Dickinson.* 330, 828, 101-F1 (1988)

A Catalog of Observations for Stellar Masers. *Priscilla J. Benson, Irene R. Little-Marenin, Tara C. Woods, Joanne M. Attridge, Kristin A. Blais, Dana B. Rudolph, Myra E. Rubiera, & Heidi L. Keefe.* 74, 911, 44-B7 (1990)

BENTLEY, A. F. The Neon Nova. II. Condensation of Silicate Grains in the Ejecta of Nova Vulpeculae 1984 Number 2. *R. D. Gehrz, G. L. Grasdalen, M. Greenhouse, J. A. Hackwell, T. Hayward, & A. F. Bentley.* 308, L63, 120-F12 (1986)

BENTLEY, R. D. Turbulent and Directed Plasma Motions in Solar Flares. *A. Fludra, J. R. Lemen, J. Jakimiec, R. D. Bentley, & J. Sylwester.* 344, 991, 146-C7 (1989)

On the Dependence of Solar Flare X-Ray Spectral Line Intensity Ratios of Highly Ionized Sulfur, Calcium, and Iron on Electron Temperature, Differential Emission Measure, and Atomic Physics. *G. A. Doschek, A. Fludra, R. D. Bentley, J. Lang, K. J. H. Phillips, & T. Watanabe.* 358, 665, 131-G3 (1990)

BENVENUTO, O. G. SN 1987A: A Linear Polarimetric Study. *M. Méndez, A. Clocchiatti, O. G. Benvenuto, C. Feinstein, & H. G. Marraco.* 334, 295, 157-F1 (1988)

BENZ, A. O. On the Electron-Cyclotron Maser Instability. I. Quasi-linear Diffusion in the Loss Cone. *M. J. Aschwanden & A. O. Benz.* 332, 447, 128-A9 (1988)

On the Electron-Cyclotron Maser Instability. II. Pulsations in the Quasi-stationary State. *M. J. Aschwanden & A. O. Benz.* 332, 466, 128-C1 (1988)

Enhanced Radiation Driven by a DC Electric Field. *T. Tajima, A. O. Benz, M. Thaker, & J.-N. Leboeuf.* 353, 666, 72-B8 (1990)

Statistical Study of the Correlation of Hard X-Ray and Type III Radio Bursts in Solar Flares. *Russell J. Hamilton, Vahé Petrosian, & A. O. Benz.* 358, 644, 131-E1 (1990)

BENZ, W. Redistribution of Angular Momentum by Nonaxisymmetric Instabilities in a Thick Accretion Disk. *W. H. Zurek & W. Benz.* 308, 123, 109-D5 (1986)

Three-dimensional Hydrodynamical Simulations of Stellar Collisions. I. Equal-Mass Main-Sequence Stars. *W. Benz & J. G. Hills.* 323, 614, 161-D9 (1987)

Three-dimensional Hydrodynamical Simulations of Stellar Collision. II. White Dwarfs. *W. Benz, J. G. Hills, & F.-K. Thielemann.* 342, 986, 114-E1 (1989)

Dynamic Mass Exchange in Doubly Degenerate Binaries. I. 0.9 and 1.2 $M_\odot$ Stars. *W. Benz, R. L. Bowers, A. G. W. Cameron, & W. H. Press.* 348, 647, 10-F5 (1990)

BENZ, WILLY. Convective Instabilities in SN 1987A. *Willy Benz & Friedrich-Karl Thielemann.* 348, L17, 6-B11 (1990)

BEREZINSKY, V. S. High-Energy Neutrinos from Cygnus X-3. *V. S. Berezinsky, C. Castagnoli, & P. Galeotti.* 301, 235, 16-E1 (1986)

Diffusive Shock Acceleration of Cosmic Rays and Gamma Radiation from Young Supernova Shells. *V. S. Berezinsky & V. S. Ptuskin.* 340, 351, 71-D6 (1989)

On the Diffuse Gamma Radiation at Ultra-High Energies, $E_\gamma \gtrsim 10^{14}$ eV. *V. S. Berezinsky & V. A. Kudryavtsev.* 349, 620, 23-A3 (1990)

High-Energy Gamma Radiation from Black Holes with Slow Friction Accretion. *V. S. Berezinsky & V. I. Dokuchaev.* 361, 492, 164-C1 (1990)

BERGE, G. L. Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)

BERGER, MITCHELL A. The Ejection of Helical Field Structures through the Outer Corona. *Lewis L. House & Mitchell A. Berger.* 323, 406, 157-E4 (1987)

BERGERON, P. Studies of Hot B Subdwarfs. VI. Detailed Calculations of Radiative Forces on Metals in the Envelopes and Atmospheres of Hydrogen-rich Subdwarfs. *P. Bergeron, F. Wesemael, G. Michaud, & G. Fontaine.* 332, 964, 135-A7 (1988)

Studies of Hot B Subdwarfs. VII. Non–LTE Radiative Acceleration of Helium in the Atmospheres of sdOB Stars. *G. Michaud, P. Bergeron, U. Heber, & F. Wesemael.* 338, 417, 38-B1 (1989)

Determination of the Atmospheric Parameters of the Binary DA White Dwarf L870-2 (EG 11). *P. Bergeron, F. Wesemael, James Liebert, & G. Fontaine.* 345, L91, 165-C5 (1989)

On the Surface Composition of Cool, Hydrogen-Line White Dwarfs: Discovery of Helium in the Atmospheres of Cool DA Stars and Evidence for Convective Mixing. *P. Bergeron, F. Wesemael, G. Fontaine, & James Liebert.* 351, L21, 43-C11 (1990)

A Spectroscopically Predicted New ZZ Ceti Variable: GD 165. *P. Bergeron & J. T. McGraw.* 352, L45, 61-C11 (1990)

Three Unresolved Double Degenerate Binaries. *P. Bergeron, Jesse L. Greenstein, & James Liebert.* 361, 190, 159-C11 (1990)

Spectroscopic Studies and Atmospheric Parameters of Pulsating DA White Dwarf (ZZ Ceti) Stars. *D. Daou, F. Wesemael, P. Bergeron, G. Fontaine, & J. B. Holberg.* 364, 242, 197-A11 (1990)

BERGMANN, ANTON G. Gravitational Lens Models of Arcs in Clusters. *Anton G. Bergmann, Vahé Petrosian, & Roger Lynds.* 350, 23, 25-C11 (1990)

BERGMANN, T. STORCHI. *BV* Surface Photometry of Southern Galaxies. I. NGC 4507. *T. Storchi Bergmann & M. G. Pastoriza.* 304, 305, 57-C6 (1986)

BERGMANN, THAISA STORCHI. On the Metal Abundance of Low-Activity Galactic Nuclei. *Thaisa Storchi Bergmann & Miriani Griselda Pastoriza.* 347, 195, 184-E1 (1989)

BERMAN, G. The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

BERNACCA, P. L. The Problem of the *Hipparcos* Reference Frame. *M. G. Lattanzi, B. Bucciarelli, & P. L. Bernacca.* 73, 481, 25-A7 (1990)

BERNATH, P. F. Upper Limits to Interstellar PO. *H. E. Matthews, P. A. Feldman, & P. F. Bernath.* 312, 358, 4-F14 (1987)

Search for HeH^+ in NGC 7027. *J. M. Moorhead, R. P. Lowe, J.-P. Maillard, W. H. Wehlau, & P. F. Bernath.* 326, 899, 43-D3 (1988)

BERNATOWICZ, THOMAS J. Electron Energy Loss Spectrometry of Interstellar Diamonds. *Thomas J. Bernatowicz, Patrick C. Gibbons, & Roy S. Lewis.* 359, 246, 137-B5 (1990)

BERNSTEIN, G. M. Anisotropy of the Diffuse Background at Millimeter Wavelengths. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 337, L1, 25-A6 (1989)

A Measurement of the Spectrum of the Cosmic Background Radiation from 1 to 3 Millimeter Wavelength. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 362, 107, 170-D9 (1990)

BERRIMAN, GRAHAM. The Discovery of Near-Infrared Polarized Cyclotron Emission in the Intermediate Polar BG Canis Minoris. *Steven C. West, Graham Berriman, & Gary D. Schmidt.* 322, L35, 145-C7 (1987)

Evidence for Accretion Disks in Highly Polarized Quasars. *Paul S. Smith, Richard Elston, Graham Berriman, Richard G. Allen, & Thomas J. Balonek.* 326, L39, 46-A9 (1988)

Circular Polarimetry of EXO 033319−2554.2: A New Eclipsing AM Herculis Star. *Graham Berriman & Paul S. Smith.* 329, L97, 89-E11 (1988)

IUE Observations of the Dwarf Nova BV Centauri. *G. Williger, Graham Berriman, Richard A. Wade, & B. J. M. Hassall.* 333, 277, 141-B7 (1988)

Eclipse Studies of the Dwarf Nova OY Carinae in Quiescence. *Janet H. Wood, Keith Horne, Graham Berriman, & Richard A. Wade.* 341, 974, 97-C1 (1989)

The Origin of the Optical Polarizations of Seyfert 1 Galaxies. *Graham Berriman.* 345, 713, 159-F2 (1989)

Time-resolved Spectroscopy and Photometry of the Eclipsing AM Herculis Binary EXO 033319–2554.2. *Richard G. Allen, Graham Berriman, Paul S. Smith, & Gary D. Schmidt.* 347, 426, 187-D1 (1989)

The Origin of the Near-Infrared Emission in Palomar Green Quasars: The Case for Hot Dust. *Graham Berriman.* 354, 148, 75-G3 (1990)

An Optical Polarization Survey of the Palomar-Green Bright Quasar Sample. *Graham Berriman, Gary D. Schmidt, S. C. West, & H. S. Stockman.* 74, 869, 43-E5 (1990)

BERRINGTON, K. A. Ca XV Line Ratios in Solar Flares. *F. P. Keenan, K. M. Aggarwal, K. A. Berrington, & K. G. Widing.* 327, 473, 52-C1 (1988)

Fine-Structure Populations for the ^6D Ground State of Fe II. *F. P. Keenan, A. Hibbert, P. G. Burke, & K. A. Berrington.* 332, 539, 129-A5 (1988)

Population Ratios for the Fine-Structure Ground State of O I Applicable to the Interstellar Medium. *F. P. Keenan & K. A. Berrington.* 333, 806, 149-B6 (1988)

Effective Collision Strengths among Fine-Structure Levels of Ca XV. *K. M. Aggarwal, K. A. Berrington, & F. P. Keenan.* 72, 815, 16-F5 (1990)

BERSANELLI, M. The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 325, 1, 19-A7 (1988)

The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz: Erratum. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 1, 19-A7 (1988))

A Measurement of the Cosmic Microwave Background Radiation Temperature at 1.410 GHz. *S. M. Levin, C. Witebsky, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, & G. F. Smoot.* 334, 14, 154-B9 (1988)

The Absolute Temperature of the Sky and the Temperature of the Cosmic Background Radiation at 600 MHz. *G. Sironi, M. Limon, G. Marcellino, G. Bonelli, M. Bersanelli, G. Conti, & K. Reif.* 357, 301, 116-C11 (1990)

BERSANELLI, MARCO. Long-Wavelength Measurements of the Cosmic Microwave Background Radiation Spectrum. *George F. Smoot, Marc Bensadoun, Marco Bersanelli, Giovanni De Amici, Alan Kogut, Steve Levin, & Chris Witebsky.* 317, L45, 78-A9 (1987)

Measurement of the Intensity of the Cosmic Background Radiation at 3.7 GHz. *Giovanni De Amici, George F. Smoot, Jon Aymon, Marco Bersanelli, Al Kogut, Steven M. Levin, & Chris Witebsky.* 329, 556, 82-F8 (1988)

Measurements of the Cosmic Microwave Background Radiation Temperature at 90 GHz. *Marco Bersanelli, Chris Witebsky, Marc Bensadoun, Giovanni De Amici, Al Kogut, Steven M. Levin, & George F. Smoot.* 339, 632, 59-F7 (1989)

The Temperature of the Cosmic Background Radiation: Results from the 1987 and 1988 Measurements at 3.8 GHz. *Giovanni De Amici, Marc Bensadoun, Marco Bersanelli, Al Kogut, Steve Levin, George F. Smoot, & Chris Witebsky.* 359, 219, 136-G1 (1990)

BERTAUX, J.-L. Detection of Neutral Oxygen and Sulfur Emissions near Io Using *IUE*. *G. E. Ballester, H. W. Moos, P. D. Feldman, D. F. Strobel, M. E. Summers, J.-L. Bertaux, T. E. Skinner, M. C. Festou, & J. H. Lieske.* 319, L33, 100-D1 (1987)

BERTELLI, G. On the Post–Asymptotic Giant Branch Model for the Far-Ultraviolet Emission in Elliptical Galaxies. *G. Bertelli, C. Chiosi, & F. Bertola.* 339, 889, 62-F11 (1989)

BERTHIAUME, G. On the Nonpulsation of QPQs and Galactic Bulge Neutron Star X-Ray Sources. *P. Mészáros, H. Riffert, & G. Berthiaume.* 325, 204, 21-D2 (1988)

BERTHIAUME, G. D. Search for Soft X-Ray Emission from SN 1987A with a CCD X-Ray Imaging Spectrometer. *D. N. Burrows, J. A. Nousek, G. D. Berthiaume, & G. P. Garmire.* 347, 1114, 197-D7 (1989)

BERTHIER, G. A Tentative Interpretation for the Difference in the Abundance Ratios HCO^+/CO and HCS^+/CS in Interstellar Space. *D. Talbi, A. P. Hickman, F. Pauzat, Y. Ellinger, & G. Berthier.* 339, 231, 52-G1 (1989)

BERTIN, G. Masses and Mass-to-Light Ratios for Eight Ellipticals from a Test of Anisotropic Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 330, 78, 90-G7 (1988)

Modal Approach to the Morphology of Spiral Galaxies. I. Basic Structure and Astrophysical Viability. *G. Bertin, C. C. Lin, S. A. Lowe, & R. P. Thurstans.* 338, 78, 34-A3 (1989)

Modal Approach to the Morphology of Spiral Galaxies. II. Dynamical Mechanisms. *G. Bertin, C. C. Lin, S. A. Lowe, & R. P. Thurstans.* 338, 104, 34-C6 (1989)

Stability Aspects of a Family of Anisotropic Models of Elliptical Galaxies. *G. Bertin & M. Stiavelli.* 338, 723, 42-G1 (1989)

BERTOLA, F. NGC 5266: An Elliptical Galaxy with a Dust Ring. *S. R. Varnas, F. Bertola, G. Galletta, K. C. Freeman, & D. Carter.* 313, 69, 15-F12 (1987)

The Far-Ultraviolet Spectra of Early-Type Galaxies. *David Burstein, F. Bertola, L. M. Buson, S. M. Faber, & Tod R. Lauer.* 328, 440, 67-G4 (1988)

On the Post–Asymptotic Giant Branch Model for the Far-Ultraviolet Emission in Elliptical Galaxies. *G. Bertelli, C. Chiosi, & F. Bertola.* 339, 889, 62-F11 (1989)

BERTOLA, FRANCESCO. The Stellar Population of NGC 6166. *Francesco Bertola, Michael D. Gregg, James E. Gunn, & Augustus Oemler, Jr.* 303, 624, 49-C12 (1986)

The Counterrotation of Gas and Stars in the Dust Lane Elliptical NGC 5898. *Francesco Bertola & Daniela Bettoni.* 329, 102, 76-A12 (1988)

Evidence for a Triaxial Bulge in the Spiral Galaxy NGC 4845. *Francesco Bertola, Vera C. Rubin, & Werner W. Zeilinger.* 345, L29, 157-C7 (1989)

Ultraviolet Observations of NGC 205. *Eric M. Wilcots, Paul Hodge, Paul B. Eskridge, Francesco Bertola, & Lucio Buson.* 364, 87, 195-A13 (1990)

BERTOLDI, FRANK. The Photoevaporation of Interstellar Clouds. I. Radiation-driven Implosion. *Frank Bertoldi.* 346, 735, 176-E1 (1989)

The Photoevaporation of Interstellar Clouds. II. Equilibrium Cometary Clouds. *Frank Bertoldi & Christopher F. McKee.* 354, 529, 83-A1 (1990)

BERTOTTI, G. The Radio Properties of Bright Seyfert Galaxies. *G. Giuricin, F. Mardirossian, M. Mezzetti, & G. Bertotti.* 72, 551, 10-B5 (1990)

BERTOUT, CLAUDE. CO Line Formation in Bipolar Flows. I. Accelerated Outflows. *Sylvie Cabrit & Claude Bertout.* 307, 313, 98-D12 (1986)

Accretion Disks around T Tauri Stars. *Claude Bertout, Gibor Basri, & Jerome Bouvier.* 330, 350, 94-B1 (1988)

Accretion Disks around T Tauri Stars. II. Balmer Emission. *Gibor Basri & Claude Bertout.* 341, 340, 88-A9 (1989)

CO Line Formation in Bipolar Flows. II. Decelerated Outflow Case and Summary of Results. *Sylvie Cabrit & Claude Bertout.* 348, 530, 9-C1 (1990)

BERTSCHINGER, EDMUND. On the Structure and Stability of Radiative Shock Waves. *Edmund Bertschinger.* 304, 154, 55-E8 (1986)

The Role of Heat Conduction in the Cooling Flows of Galaxy Clusters. *Edmund Bertschinger & Avery Meiksin.* 306, L1, 86-A4 (1986)

Cosmological Accretion Wakes. *Edmund Bertschinger.* 316, 489, 57-D1 (1987)

Path Integral Methods for Primordial Density Perturbations: Sampling of Constrained Gaussian Random Fields. *Edmund Bertschinger.* 323, L103, 164-A14 (1987)

Can Cosmic Strings Generate Large-Scale Streaming Velocities? *Edmund Bertschinger.* 324, 5, 1-A11 (1988)

Galaxy Formation with Cosmic Strings and Massive Neutrinos. *Edmund Bertschinger & Paul N. Watts.* 328, 23, 62-C4 (1988)

Dynamics of Radiative Supernova Remnants. *Denis F. Cioffi, Christopher F. McKee, & Edmund Bertschinger.* 334, 252, 157-B5 (1988)

Searching for the Great Attractor. *Edmund Bertschinger & Roman Juszkiewicz.* 334, L59, 169-A10 (1988)

Recovering the Full Velocity and Density Fields from Large-Scale Redshift-Distance Samples. *Edmund Bertschinger & Avishai Dekel.* 336, L5, 8-C1 (1989)

The Evolution of Cooling Flows: Self-similar Cooling Waves. *Edmund Bertschinger.* 340, 666, 76-F7 (1989)

Potential, Velocity, and Density Fields from Sparse and Noisy Redshift-Distance Samples: Method. *Avishai Dekel, Edmund Bertschinger, & S. M. Faber.* 364, 349, 200-C11 (1990)

Potential, Velocity, and Density Fields from Redshift-Distance Samples: Application: Cosmography within 6000 Kilometers per Second. *Edmund Bertschinger, Avishai Dekel, S. M. Faber, Alan Dressler, & David Burstein.* 364, 370, 200-E6 (1990)

BESSELL, M. S. Detection of an OH/IR Star in the Large Magellanic Cloud. *P. R. Wood, M. S. Bessell, & J. B. Whiteoak.* 306, L81, 94-A1 (1986)

The Velocity Dispersion of Old Stars in the Large Magellanic Cloud. *M. S. Bessell, K. C. Freeman, & P. R. Wood.* 310, 710, 141-F9 (1986)

Angular Diameters of Magellanic Cloud Planetary Nebulae. I. Speckle Interferometry. *P. R. Wood, M. S. Bessell, & M. A. Dopita.* 311, 632, 154-F10 (1986)

Speckle Interferometry of SN 1987A up to One Year after Explosion. *P. R. Wood, P. E. J. Nulsen, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 339, 1073, 65-A1 (1989)

^{9}Be Abundance in Population II Stars: Implications for Light-Element Nucleosynthesis. *Sean G. Ryan, M. S. Bessell, Ralph S. Sutherland, & John E. Norris.* 348, L57, 13-B10 (1990)

Speckle Interferometry of SN 1987A: Final Measurements. *P. E. J. Nulsen, P. R. Wood, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 358, 266, 125-D6 (1990)

BESSELL, MICHAEL S. Abundances of Heavy Elements in the Magellanic Clouds. I. Metal Abundances of F-Type Supergiants. *Stephen C. Russell & Michael S. Bessell.* 70, 865, 32-A1 (1989)

BESTER, M. Location and Phase of Dust Formation in IRC +10216 Indicated by 11 Micron Spatial Interferometry. *W. C. Danchi, M. Bester, C. G. Degiacomi, P. R. McCullough, & C. H. Townes.* 359, L59, 144-C10 (1990)

BESTMAN, A. R. Propagation of Internal Acoustic-Gravity Waves in a Rotating and Radiating Opaque Atmosphere. *A. R. Bestman.* 341, 692, 93-G8 (1989)

BETHE, H. A. Convection in Supernova Theory. *H. A. Bethe, G. E. Brown, & J. Cooperstein.* 322, 201, 140-B3 (1987)

BETHE, HANS A. Mass-Energy Relation for SN 1987A from Observations. *Hans A. Bethe & Pierre Pizzochero.* 350, L33, 37-B5 (1990)

BETTONI, DANIELA. The Counterrotation of Gas and Stars in the Dust Lane Elliptical NGC 5898. *Francesco Bertola & Daniela Bettoni.* 329, 102, 76-A12 (1988)

BETZ, A. L. Observations of Neutral Atomic Carbon at 809 GHz. *J. Zmuidzinas, A. L. Betz, & D. M. Goldhaber.* 307, L75, 107-D11 (1986)

New Lines of Ethylene and a Search for Methylene in IRC +10216. *D. M. Goldhaber, A. L. Betz, & J. J. Ottusch.* 314, 356, 32-A13 (1987)

Heterodyne Spectroscopy of the 158 Micron C II Line in M42. *R. T. Boreiko, A. L. Betz, & J. Zmuidzinas.* 325, L47, 31-D9 (1988)

Neutral Atomic Carbon in Dense Molecular Clouds. *J. Zmuidzinas, A. L. Betz, R. T. Boreiko, & D. M. Goldhaber.* 335, 774, 181-B8 (1988)

Heterodyne Spectroscopy of the J=17–16 CO Line in Orion. *R. T. Boreiko, A. L. Betz, & J. Zmuidzinas.* 337, 332, 21-D11 (1989)

Heterodyne Spectroscopy of the J = 22–21 CO Line in Orion. *R. T. Boreiko & A. L. Betz.* 346, L97, 181-E8 (1989)

Reversed Far-Infrared Line Emission from OH in Orion. *A. L. Betz & R. T. Boreiko.* 346, L101, 181-E12 (1989)

Ionized Carbon in Side-illuminated Molecular Clouds. *R. T. Boreiko, A. L. Betz, & J. Zmuidzinas.* 353, 181, 64-D1 (1990)

BEUERMANN, K. Uncorrelated Soft and Hard X-Ray Short-Term Variations from AM Herculis. *L. Stella, K. Beuermann, & J. Patterson.* 306, 225, 83-F8 (1986)

Einstein Observations of EF Eridani (2A 0311–227), The Textbook Example of AM Herculis–Type Systems. *K. Beuermann, L. Stella, & J. Patterson.* 316, 360, 54-A6 (1987)

Observations of the Late Superhump in VW Hydri. *H. van der Woerd, M. van der Klis, J. van Paradijs, K. Beuermann, & C. Motch.* 330, 911, 102-E1 (1988)

BEUERMANN, KLAUS. The Optical Light Curve of the Low-Mass X-Ray Binary XB 1254–690. *Christian Motch, Holger Pedersen, Klaus Beuermann, Manfred W. Pakull, & Thierry J.-L. Courvoisier.* 313, 792, 25-D8 (1987)

A New Soft X-Ray Mode in the AM Herculis Object E2003+225. *Julian P. Osborne, Klaus Beuermann, Philip Charles, Laura Maraschi, Koji Mukai, & Aldo Treves.* 315, L123, 49-E5 (1987)

BÉZARD, B. Detection of Arsine in Saturn. *B. Bézard, P. Drossart, E. Lellouch, G. Tarrago, & J.-P. Maillard.* 346, 509, 172-D11 (1989)

BEZLER, M. Upper Limits from Hard X-Ray Observations of Five BL Lacertae Objects. *M. Bezler, D. E. Gruber, & R. E. Rothschild.* 334, 995, 167-E1 (1988)

BHARAT, R. High-Resolution [Ne II] Observations of the Ionized Filaments in the Galactic Center. *E. Serabyn, J. H. Lacy, C. H. Townes, & R. Bharat.* 326, 171, 34-A5 (1988)

BHAT, C. L. Estimate from Gulmarg of PeV Photon Flux from Cygnus X-3 and Its Relevance. *C. L. Bhat, M. L. Sapru, & H. Razdan.* 306, 587, 91-A7 (1986)

BHAT, P. N. A Possible Very High Energy Gamma-Ray Burst from Hercules X-1. *P. R. Vishwanath, P. N. Bhat, P. V. Ramanamurthy, & B. V. Sreekantan.* 342, 489, 106-F11 (1989)

BHATIA, A. K. The Statistical Equilibrium of Hydrogen and Helium in a Radiation Field, with an Application to Interpreting Wolf-Rayet Spectra. *A. K. Bhatia & A. B. Underhill.* 60, 323, 4-F8 (1986)

The Extreme-Ultraviolet Spectrum (300–630 Å) of an Errupting Prominence Observed from *Skylab*. *K. G. Widing, U. Feldman, & A. K. Bhatia.* 308, 982, 119-F9 (1986)

Electron Collisional Excitation and Resonant Photoexcitation of Solar S XI. *S. O. Kastner & A. K. Bhatia.* 309, 883, 131-A1 (1986)

A Comparison of the C III, O V, F VI, and Ne VII Δn = 0(2–2) Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

Laboratory Study of the Spectrum of Highly Ionized Calcium in the 100–250 Å Range Applied to Solar Flare Diagnostics. *S. Lippmann, M. Finkenthal, L. K. Huang, H. W. Moos, B. C. Stratton, T. L. Yu, A. K. Bhatia, & W. L. Hodge.* 316, 819, 61-A11 (1987)

Carbon and Nitrogen Lines in the Spectra of Wolf-Rayet Stars. *A. K. Bhatia & A. B. Underhill.* 67, 187, 13-E1 (1988)

Spatial Probing of Nebular Properties via Bowen Pumping. *A. K. Bhatia & S. O. Kastner.* 331, 826, 118-A5 (1988)

Multilevel Calculations of the Ne IV Solar Spectrum. *A. K. Bhatia & S. O. Kastner.* 332, 1063, 136-B7 (1988)

The Optically Thick O III Spectrum. I. Diagnostic Ratios Involving the Intercombination Lines. *S. O. Kastner & A. K. Bhatia.* 71, 665, 45-C11 (1989)

The Fe XI–excited Fluorescent Cascade in Ne IV. *A. K. Bhatia & S. O. Kastner.* 352, 772, 60-F1 (1990)

The Oxygen Emission Lines in Wolf-Rayet Spectra. *A. K. Bhatia & Anne B. Underhill.* 358, 240, 125-B1 (1990)

Solar Coronal Ar/Fe and Ne/Mg Abundance Ratios Derived from Ultraviolet Forbidden Line Spectra. *G. A. Doschek & A. K. Bhatia.* 358, 338, 126-C5 (1990)

Explicit Relations in Bowen Fluorescence: Applications to Nebulae, the Sun, Scorpius X-1, and Laboratory Plasmas. *S. O. Kastner & A. K. Bhatia.* 362, 745, 180-B1 (1990)

BHATIA, V. B. Dependence of Pulsar Characteristics on the Spacetime Metric. *V. B. Bhatia, Namrata Chopra, Bhabani Majumdar, & N. Panchapakesan.* 326, 63, 32-F2 (1988)

BHATTACHARJEE, P. Thermodynamics and Orientational Order in Systems of Extended Gravitating Objects: A Mean-Field Theory Approach. I. Basic Formalism. *P. Bhattacharjee, P. Ghosh, & R. Cowsik.* 339, 638, 59-G1 (1989)

Thermodynamics and Orientational Order in Systems of Extended Gravitating Objects. II. Tidal Distortions and the Interaction

Pseudopotential. *P. Ghosh, P. Bhattacharjee, & R. Cowsik.* 345, 647, 158-G1 (1989)

BHATTACHARYA, DIPEN. Detection of a Weak Gamma-Ray Burst from the Direction of Ursa Major. *Alan Owens, Dipen Bhattacharya, & S. Sembay.* 352, 741, 60-B9 (1990)

BHAVSAR, SUKETU P. Are the Filaments Real? *Suketu P. Bhavsar & E. Nigel Line.* 331, L63, 121-B6 (1988)

First-ranked Cluster Galaxies: A Two-Population Model. *Suketu P. Bhavsar.* 338, 718, 42-F9 (1989)

The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

The Area of Isodensity Contours in Cosmological Models and Galaxy Surveys. *Barbara S. Ryden, Adrian L. Melott, David A. Craig, J. Richard Gott III, David H. Weinberg, Robert J. Scherrer, Suketu P. Bhavsar, & John M. Miller.* 340, 647, 76-E1 (1989)

BHUI, B. Bianchi Type I Cosmological Models in Higher Dimensions. *A. Banerjee, B. Bhui, & S. Chatterjee.* 358, 23, 122-C8 (1990)

BIANCHI, L. Are There Stellar Winds in the Hot Stars of M31? *J. B. Hutchings, Philip Massey, & L. Bianchi.* 322, L79, 152-B13 (1987)

BICAY, M. D. The Infrared-to-Radio Ratio within NGC 5236 (M83) and NGC 6946. *M. D. Bicay, G. Helou, & J. J. Condon.* 338, L53, 49-B10 (1989)

The 60 Micron to 20 Centimeter Infrared-to-Radio Ratio within Spiral Galaxies. *M. D. Bicay & G. Helou.* 362, 59, 169-G1 (1990)

BICAY, MICHAEL D. Far-Infrared Properties of Cluster Galaxies. *Michael D. Bicay & Riccardo Giovanelli.* 321, 645, 131-E11 (1987)

BICKNELL, G. V. A Model for the Surface Brightness of a Turbulent, Low Mach Number Jet. II. The Global Energy Budget and Radiative Losses. *G. V. Bicknell.* 300, 591, 9-E10 (1986)

The Radio Galaxy IC 4296 (PKS 1333–22). I. Multifrequency Very Large Array Observations. *N. E. B. Killeen, G. V. Bicknell, & R. D. Ekers.* 302, 306, 31-D11 (1986)

A Model for the Surface Brightness of a Turbulent Low Mach Number Jet. III. Adiabatic Jets of Arbitrary Density Ratio: Application to NGC 315. *G. V. Bicknell.* 305, 109, 68-B3 (1986)

A Radio and Optical Study of the Interacting System NGC 5090–5091. *R. M. Smith & G. V. Bicknell.* 308, 36, 108-D3 (1986)

The Radio Galaxy IC 4296 (PKS 1333–33). II. Spectroscopy, Surface Photometry, X-Ray Imaging, and Infrared Photometry. *N. E. B. Killeen, G. V. Bicknell, & D. Carter.* 309, 45, 120-D14 (1986)

The Radio Galaxy IC 4296 (PKS 1333–33). III. Interpretation of the Radio, Optical, and X-Ray Data. *N. E. B. Killeen & G. V. Bicknell.* 324, 198, 3-C7 (1988)

The Mass Distribution of NGC 1399 from Optical and X-Ray Surface Photometry. *N. E. B. Killeen & G. V. Bicknell.* 325, 165, 20-G14 (1988)

The Thermally Confined Radio Source in NGC 1399. *N. E. B. Killeen, G. V. Bicknell, & R. D. Ekers.* 325, 180, 21-B1 (1988)

The Stellar Dynamics of NGC 1399. *G. V. Bicknell, D. Carter, N. E. B. Killeen, & T. E. G. Bruce.* 336, 639, 10-D6 (1989)

Physical Properties of Jets in Low-Luminosity Radio Sources. *G. V. Bicknell, H. R. de Ruiter, R. Fanti, R. Morganti, & P. Parma.* 354, 98, 75-B9 (1990)

Rotation Measure Variations across the Lobes of Extragalactic Radio Sources. *G. V. Bicknell, R. A. Cameron, & R. A. Gingold.* 357, 373, 117-C1 (1990)

BIEBER, J. W. Solar Cycle Variation of Cosmic-Ray North-South Anisotropy and Radial Gradient. *J. W. Bieber & M. A. Pomerantz.* 303, 843, 51-F9 (1986)

Magnetic Helicity of the Parker Field. *J. W. Bieber, P. A. Evenson, & W. H. Matthaeus.* 315, 700, 48-C7 (1987)

Cosmic-Ray Streaming in the Born Approximation. *J. W. Bieber & R. A. Burger.* 348, 597, 10-A11 (1990)

BIEBER, JOHN W. Cosmic-Ray Pitch-Angle Scattering in Isotropic Turbulence. *John W. Bieber, Charles W. Smith, & William H. Matthaeus.* 334, 470, 160-A6 (1988)

Cosmic-Ray Pitch-Angle Scattering in Isotropic Turbulence. II. Sensitive Dependence on the Dissipation Range Spectrum. *Charles W. Smith, John W. Bieber, & William H. Matthaeus.* 363, 283, 185-E12 (1990)

BIEGING, J. H. Radio Emission from Galactic Wolf-Rayet Stars and the Structure of Wolf-Rayet Winds. *David C. Abbott, J. H. Bieging, E. Churchwell, & Ana V. Torres.* 303, 239, 43-F9 (1986)

VLA Maps of Formaldehyde Absorption toward NGC 2024. *Richard M. Crutcher, C. Henkel, T. L. Wilson, K. J. Johnston, & J. H. Bieging.* 307, 302, 98-C12 (1986)

VLA Observations of 1667 MHz OH Absorption toward Cassiopeia A. *J. H. Bieging & R. M. Crutcher.* 310, 853, 143-C4 (1986)

The Discovery of Nonthermal Radio Emission from Magnetic Bp–Ap Stars. *Stephen A. Drake, David C. Abbott, T. S. Bastian, J. H. Bieging, E. Churchwell, G. Dulk, & Jeffrey L. Linsky.* 322, 902, 149-F10 (1987)

A Survey of Radio Emission from Galactic OB Stars. *J. H. Bieging, David C. Abbott, & E. B. Churchwell.* 340, 518, 73-F1 (1989)

Orion B (NGC 2024). I. VLA and IR Observations of the H II Region. *Peter J. Barnes, Richard M. Crutcher, J. H. Bieging, J. W. V. Storey, & S. P. Willner.* 342, 883, 113-C3 (1989)

The Distribution of Silicon Sulfide in the Envelope of IRC +10216. *J. H. Bieging & Nguyen-Quang-Rieu.* 343, L25, 125-D5 (1989)

First High Spatial Resolution Interferometric Observations of Solar Flares at Millimeter Wavelengths. *M. R. Kundu, S. M. White, N. Gopalswamy, J. H. Bieging, & G. J. Hurford.* 358, L69, 133-E8 (1990)

BIEGING, JOHN H. The Circumstellar Envelope of W3(OH): NH_3 Observations. *Mark J. Reid, Philip C. Myers, & John H. Bieging.* 312, 830, 12-A9 (1987)

HCN Emission toward CRL 2688: Evidence for Angular Momentum Transport in a Circumstellar Envelope. *John H. Bieging & Nguyen-Quang-Rieu.* 324, 516, 6-G7 (1988)

Evidence for Ion-Molecule Chemistry in the Envelope of IRC +10216. *John H. Bieging & Nguyen-Quang-Rieu.* 329, L107, 89-F6 (1988)

Aperture Synthesis Observations of Molecules in CRL 2688. *Nguyen-Q-Rieu & John H. Bieging.* 359, 131, 135-F1 (1990)

Observations of an Expanding Molecular Ring in S106. *Robert Loushin, Richard M. Crutcher, & John H. Bieging.* 362, L67, 181-D10 (1990)

Observations of the Dense Gas in the IRAS 16293–2422 Outflow System. *Christopher K. Walker, John E. Carlstrom, John H. Bieging, Charles J. Lada, & Erick T. Young.* 364, 173, 196-B12 (1990)

BIERMANN, P. 1928+738: A Superluminal Source with Large-Scale Structure. *K. J. Johnston, R. S. Simon, A. Eckart, P. Biermann, C. Schalinski, A. Witzel, & R. G. Strom.* 313, L85, 27-D11 (1987)

BIERMANN, P. L. Synchrotron Emission from Shock Waves in Active Galactic Nuclei. *P. L. Biermann & P. A. Strittmatter.* 322, 643, 146-G5 (1987)

CCD Photometry of the M87 Jet. *I. Pérez-Fournon, L. Colina, J. I. González-Serrano, & P. L. Biermann.* 329, L81, 89-C7 (1988)

X-Ray Observations of the Starburst Galaxy M82. *R. Schaaf, W. Pietsch, P. L. Biermann, P. P. Kronberg, & T. Schmutzler.* 336, 722, 11-D1 (1989)

Source Composition of Cosmic Rays at Energies 1–1000 TeV per Nucleon. *R. Silberberg, C. H. Tsao, M. M. Shapiro, & P. L. Biermann.* 363, 265, 185-D3 (1990)

BIERMANN, PETER. High-Resolution Radio Observations of the Most Luminous Quasar. *Helmut Kühr, John T. Stocke, Peter A. Strittmatter, Norbert Bartel, Andreas Eckart, Cornelius Schalinski, Arno Witzel, & Peter Biermann.* 302, 52, 28-E5 (1986)

BIERMANN, PETER L. Maximum Energy of Cosmic-Ray Particles Accelerated by Supernova Remnant Shocks in Stellar Wind Cavities. *Heinrich J. Völk & Peter L. Biermann.* 333, L65, 152-D6 (1988)

Depolarizing Hot Gas in Clusters of Galaxies with a Strong Double Radio Source. *André R. Crusius-Wätzel, Peter L. Biermann, Ian Lerche, & Reinhard Schlickeiser.* 360, 417, 151-E1 (1990)

BIES, W. E. H I Observations of Three *IRAS* Detected Elliptical Galaxies. *D. E. P. Walsh, J. H. van Gorkom, W. E. Bies, N. Katz, G. R. Knapp, & S. Wallington.* 352, 532, 57-F3 (1990)

BIES, WILLIAM E. Topology of Microwave Background Fluctuations: Theory. *J. Richard Gott III, Changbom Park, Roman Juszkiewicz,*

William E. Bies, David P. Bennett, François R. Bouchet, & Albert Stebbins. 352, 1, 50-A11 (1990)

BIETENHOLZ, M. F. The Magnetic Field of the Crab Nebula and the Nature of Its "Jet." *M. F. Bietenholz & P. P. Kronberg.* 357, L13, 115-C5 (1990)

BIGNAMI, G. F. *EXOSAT* and *Einstein* X-Ray Observations of the SNR 1E 1149.4–6209 in Crux: A Unified Picture? *G. F. Bignami, P. A. Caraveo, A. Goldwurm, S. Mereghetti, & G. G. C. Palumbo.* 302, 606, 37-C2 (1986)

EXOSAT and *Einstein* Observations of the X-Ray Pulsar 4U 1145–619. *S. Mereghetti, G. F. Bignami, P. A. Caraveo, & A. Goldwurm.* 312, 755, 11-B11 (1987)

A Deep Optical Study of the Field of 1E 0630+178. *G. F. Bignami, P. A. Caraveo, J. A. Paul, L. Salotti, & L. Vigroux.* 319, 358, 97-A1 (1987)

Diffuse *Einstein* X-Ray Emission from the Region of RCW 49, a Bright Southern Emission Nebula. *A. Goldwurm, P. A. Caraveo, & G. F. Bignami.* 322, 349, 141-E12 (1987)

Search for Linear Polarization in Gamma-Ray Sources: Possible Evidence for the Vela Pulsar. *P. A. Caraveo, G. F. Bignami, I. Mitrofanov, & G. Vacanti.* 327, 203, 49-B11 (1988)

BIGNAMI, GIOVANNI F. On the Birthplace of PSR 0833–45: Or, Is the Vela Pulsar Associated with the Vela SNR? *Giovanni F. Bignami & Patrizia A. Caraveo.* 325, L5, 25-A8 (1988)

A New 60 Millisecond X-Ray Pulsar and Its Massive Early-Type Companion. *Patrizia A. Caraveo, Giovanni F. Bignami, & Andrea Goldwurm.* 338, 338, 37-B9 (1989)

BIGNELL, R. C. Linear Polarization Observations in Selected Celestial Zones: The Central Region of Our Galaxy. *R. C. Bignell, M. Simard-Normandin, & J. P. Vallée.* 67, 279, 16-E1 (1988)

Excess Rotation Measure and Large-Scale Magnetic Field in the Scutum Spiral Arm of Our Galaxy. *J. P. Vallée, M. Simard-Normandin, & R. C. Bignell.* 331, 321, 109-F9 (1988)

BILDSTEN, LARS. Positron Annihilation Radiation from the Galactic Center: "Cheshire Cat" Compton Scattering and the Origin of Excess Continuum. *Lars Bildsten & W. H. Zurek.* 329, 212, 77-D1 (1988)

Superfluid Dissipation Time Scales in Neutron Star Crusts. *Lars Bildsten & Richard I. Epstein.* 342, 951, 114-B1 (1989)

BINETTE, L. Steady, Partially Ionized Stellar Jets. *A. C. Raga, L. Binette, & J. Cantó.* 360, 612, 153-G1 (1990)

Stellar Jets with Intrinsically Variable Sources. *A. C. Raga, J. Cantó, L. Binette, & N. Calvet.* 364, 601, 203-F1 (1990)

BINETTE, LUC. Relation between the Ionizing Continuum and the Emission Lines in Fairall 9. *Luc Binette, Almudena Prieto, Ewa Szuszkiewicz, & Wei Zheng.* 343, 135, 119-G3 (1989)

A Double-Stream Model for Line Profiles. *Wei Zheng, Luc Binette, & Jack W. Sulentic.* 365, 115, 207-D11 (1990)

BINGGELI, BRUNO. Neutral Hydrogen Detection Survey of Dwarf Galaxies. II. Faint Virgo Dwarfs and a Field Sample. *G. Lyle Hoffman, Hayes L. Williams, E. E. Salpeter, Allan Sandage, & Bruno Binggeli.* 71, 701, 46-B1 (1989)

BINNEY, J. J. Velocity Mapping and Models of the Elliptical Galaxies NGC 720, NGC 1052, and NGC 4697. *J. J. Binney, Roger L. Davies, & Garth D. Illingworth.* 361, 78, 158-A5 (1990)

BINNS, W. R. Cosmic-Ray Energy Spectra between 10 and Several Hundred GeV per Atomic Mass Unit for Elements from $_{18}$Ar to $_{28}$Ni: Results from *HEAO 3. W. R. Binns, T. L. Garrard, M. H. Israel, Michael D. Jones, M. P. Kamionkowski, J. Klarmann, E. C. Stone, & C. J. Waddington.* 324, 1106, 15-F3 (1988)

Abundances of Ultraheavy Elements in the Cosmic Radiation: Results from *HEAO 3. W. R. Binns, T. L. Garrard, P. S. Gibner, M. H. Israel, M. P. Kertzman, J. Klarmann, B. J. Newport, E. C. Stone, & C. J. Waddington.* 346, 997, 179-E1 (1989)

BIONTA, R. M. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

BIRD, D. J. A Search for Ultra–High-Energy Gamma Rays from Supernova 1987A. *D. Ciampa, D. J. Bird, R. W. Clay, P. G. Edwards, & R. J. Protheroe.* 326, L9, 38-B1 (1988)

BIRD, M. Ratios of Molecular Hydrogen Line Intensities in Shocked Gas: Evidence for Cooling Zones. *P. W. J. L. Brand, A. Moorhouse, M. G. Burton, T. R. Geballe, M. Bird, & R. Wade.* 334, L103, 169-F1 (1988)

BIRD, M. C. The Broad-Line Region at the Center of the Galaxy. *T. R. Geballe, R. Wade, K. Krisciunas, I. Gatley, & M. C. Bird.* 320, 562, 115-F12 (1987)

Ionization State in and Reddening to the Center of the Galaxy. *R. Wade, T. R. Geballe, K. Krisciunas, I. Gatley, & M. C. Bird.* 320, 570, 115-G7 (1987)

BIRETTA, J. A. The Evolution of the Compact Radio Source in 3C 345. I. VLBI Observations. *J. A. Biretta, R. L. Moore, & M. H. Cohen.* 308, 93, 109-B2 (1986)

Evolution of 3C 273 at 10.7 GHz. *M. H. Cohen, J. A. Zensus, J. A. Biretta, G. Comoretto, P. Kaufmann, & Z. Abraham.* 315, L89, 49-B11 (1987)

Subluminal Motion and Limb Brightening in the Nuclear Jet of M87. *M. J. Reid, J. A. Biretta, W. Junor, T. W. B. Muxlow, & R. E. Spencer.* 336, 112, 2-D1 (1989)

Superluminal Motion in the Quasar 3C 279. *S. C. Unwin, M. H. Cohen, J. A. Biretta, M. W. Hodges, & J. A. Zensus.* 340, 117, 68-E6 (1989)

A Search for Motion and Flux Variations in the M87 Jet. *J. A. Biretta, F. N. Owen, & T. J. Cornwell.* 342, 128, 102-E3 (1989)

BIRKINSHAW, M. NGC 4261: A Prolate Elliptical Galaxy. *Roger L. Davies & M. Birkinshaw.* 303, L45, 53-C9 (1986)

NGC 4261: A Prolate Elliptical Galaxy: Erratum. *Roger L. Davies & M. Birkinshaw.* 309, L67, 125-G14 (1986) (Orig. paper in 303, L45, 53-C9 (1986))

The Orientations of the Rotation Axes of Radio Galaxies. II. Stellar Rotation Curves and Velocity Dispersion Profiles. *Roger L. Davies & M. Birkinshaw.* 68, 409, 29-B1 (1988)

BIRNBAUM, GEORGE. Collision-induced Rototranslational Absorption Spectra of H_2-He Pairs at Temperatures from 40 to 3000 K. *Jacek Borysow, Lothar Frommhold, & George Birnbaum.* 326, 509, 37-G6 (1988)

BISHOP, JEFFREY L. Models of Axisymmetric Galaxies. *Jeffrey L. Bishop.* 305, 14, 67-B6 (1986)

Axisymmetic Shell Models with Stäckel Potentials. *Jeffrey L. Bishop.* 322, 618, 146-E7 (1987)

On the Determination of Distribution Functions by Numerical Methods. *Jeffrey L. Bishop.* 337, 155, 19-B4 (1989)

BISTOLAS, VASSILIOS G. Gravitational Lens Limits on Cosmological Black Holes. *Robert J. Nemiroff & Vassilios G. Bistolas.* 358, 5, 122-B1 (1990)

BISWAS, S. Observation of Low-Energy (30–100 MeV Nucleon^{-1}) Partially Ionized Heavy Ions in Galactic Cosmic Rays. *S. Biswas, N. Durgaprasad, Banashree Mitra, R. K. Singh, A. Dutta, & J. N. Goswami.* 359, L5, 138-A11 (1990)

BIVIANO, A. The Tully-Fisher Relation in Different Environments. *A. Biviano, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 74, 325, 35-B1 (1990)

BJORAKER, GORDON L. The Abundance and Distribution of Water Vapor in Jupiter's Atmosphere. *Gordon L. Bjoraker, Harold P. Larson, & Virgil Kunde, G.* 311, 1058, 159-D7 (1986)

BJORKMAN, K. S. Highly Ionized Stellar Winds in Be Stars: The Evidence for Aspect Dependence. *C. A. Grady, K. S. Bjorkman, & T. P. Snow.* 320, 376, 112-B8 (1987)

Highly Ionized Stellar Winds in Be Stars. II. Winds in B6–B9.5e Stars. *C. A. Grady, K. S. Bjorkman, T. P. Snow, George Sonneborn, Steven N. Shore, & Paul K. Barker.* 339, 403, 55-A8 (1989)

A Rotating, Expanding Disk in the Wolf-Rayet Star EZ Canis Majoris? *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. A. Nook, A. M. Magalhães, M. Taylor, K. S. Bjorkman, & C. M. Anderson.* 365, L19, 212-C1 (1990)

BLACK, DAVID C. Brown Dwarfs as Close Companions to White Dwarfs. *Guy S. Stringfellow, David C. Black, & Peter Bodenheimer.* 349, L59, 24-D1 (1990)

BLACK, J. H. Large Molecules in Diffuse Interstellar Clouds. *S. Lepp, A. Dalgarno, E. F. van Dishoeck, & J. H. Black.* 329, 418, 79-F2 (1988)

The Bipolar Molecular Outflow of V645 Cygni. *A. Schulz, J. H. Black, C. J. Lada, B. L. Ulich, R. N. Martin, R. L. Snell, & N. J. Erickson.* 341, 288, 87-D9 (1989)

BLACK, JOHN H. Detection of the (3,0) Phillips Band of Interstellar C_2 toward Zeta Ophiuchi. *Ewine F. van Dishoeck & John H. Black.* 307, 332, 98-F8 (1986)

Comprehensive Models of Diffuse Interstellar Clouds: Physical Conditions and Molecular Abundances. *Ewine F. van Dishoeck & John H. Black.* 62, 109, 33-B7 (1986)

An Upper Limit on the Microwave Background Temperature at $z = 1.776$. *David M. Meyer, John H. Black, Frederic H. Chaffee, Jr., Craig B. Foltz, & Donald G. York.* 308, L37, 120-E1 (1986)

Molecules at Early Epochs. II. H_2 and CO toward PHL 957. *John H. Black, Frederic H. Chaffee, Jr., & Craig B. Foltz.* 317, 442, 68-G2 (1987)

Fluorescent Excitation of Interstellar H_2. *John H. Black & Ewine F. van Dishoeck.* 322, 412, 142-C11 (1987)

Properties of Evolved Mass-losing Stars in the Milky Way and Variations in the Interstellar Dust Composition. *Harley A. Thronson, Jr., William B. Latter, John H. Black, John Bally, & Perry Hacking.* 322, 770, 148-C5 (1987)

Molecules at Early Epochs. IV. Confirmation of the Detection of H_2 toward PKS 0528–250. *Craig B. Foltz, Frederic H. Chaffee, Jr., & John H. Black.* 324, 267, 4-B4 (1988)

$I_{CO}/N(H_2)$ Conversions and Molecular Gas Abundances in Spiral and Irregular Galaxies. *Philip Maloney & John H. Black.* 325, 389, 23-D10 (1988)

Unresolved Velocity Structure in Diffuse Interstellar Clouds. *John H. Black & Ewine F. van Dishoeck.* 331, 986, 119-G7 (1988)

The Small Molecular Cloud toward HD 169454. *Buell T. Jannuzi, John H. Black, Charles J. Lada, & Ewine F. van Dishoeck.* 332, 995, 135-D2 (1988)

The Photodissociation and Chemistry of Interstellar CO. *Ewine F. van Dishoeck & John H. Black.* 334, 771, 165-A2 (1988)

Molecules at Early Epochs. III. The Lyman-Alpha Disk System toward 1331+170. *Frederic H. Chaffee, Jr., John H. Black, & Craig B. Foltz.* 335, 584, 179-A1 (1988)

Fluorescent Vibration-Rotation Excitation of Cometary C_2. *Roland Gredel, Ewine F. van Dishoeck, & John H. Black.* 338, 1047, 46-F10 (1989)

Interstellar C_2, CH, and CN in Translucent Molecular Clouds. *Ewine F. van Dishoeck & John H. Black.* 340, 273, 70-D8 (1989)

Interstellar Absorption Lines toward NGC 2264 and AFGL 2591: Abundances of H_2, H^{+3}, and CO. *John H. Black, Ewine F. van Dishoeck, S. P. Willner, & R. Claude Woods.* 358, 459, 129-C8 (1990)

The Photodissociation and Chemistry of Interstellar CO: Erratum. *Ewine F. van Dishoeck & John H. Black.* 360, 314, 148-G13 (1990) (Orig. paper in 334, 771, 165-A2 (1988))

BLACKWELL, A. T. Evidence from Meteor Patrol Photographs for a Nonastronomical Origin of the Reported Optical Flashes in Perseus. *I. Halliday, P. A. Feldman, & A. T. Blackwell.* 320, L153, 121-F11 (1987)

BLACKWELL, J. H. A Millimeter-Wave Spectral Line and Continuum Survey of Cold IRAS Sources. *B. A. Wilking, L. G. Mundy, J. H. Blackwell, & J. E. Howe.* 345, 257, 152-C9 (1989)

BLACKWELL, JAMES H., JR. Evidence for a Supermassive Black Hole in the Nucleus of the Seyfert Galaxy NGC 5548. *D. Michael Crenshaw & James H. Blackwell, Jr.* 358, L37, 133-B7 (1990)

BLADES, J. C. Gas in and toward the Magellanic Clouds. *A. Songaila, J. C. Blades, E. M. Hu, & L. L. Cowie.* 303, 198, 43-C6 (1986)

Absorption Spectrum of the $z = 3.78$ QSO 2000–330. I. The Lyman-Alpha Forest Region at 1.5 Å Resolution. *R. W. Hunstead, H. S. Murdoch, B. A. Peterson, J. C. Blades, D. L. Jauncey, A. E. Wright, M. Pettini, & A. Savage.* 305, 496, 72-E8 (1986)

Absorption Spectrum of the $z = 3.78$ QSO 2000–330. II. The Redshift and Equivalent Width Distributions of Primordial Hydrogen Clouds. *H. S. Murdoch, R. W. Hunstead, M. Pettini, & J. C. Blades.* 309, 19, 120-B10 (1986)

The Distribution of Lyman-Alpha Absorption Lines in High-Redshift QSOs: The Case for Evolution Reexamined. *R. W. Hunstead, H. S. Murdoch, M. Pettini, & J. C. Blades.* 329, 527, 82-C10 (1988)

Abundances in Intermediate-Velocity Clouds toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 332, L75, 137-D5 (1988)

Detection of Extragalactic Absorption in the Ultraviolet Spectrum of the BL Lacertae Object PKS 2155–304. *L. Maraschi, J. C. Blades, C. Calanchi, E. G. Tanzi, & A. Treves.* 333, 660, 147-D1 (1988)

An Ultraviolet Spectral Atlas of Interstellar Lines toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 334, 308, 157-G1 (1988)

High-Resolution Observations of Interstellar Na I and Ca II Absorption Lines toward the Scorpius OB1 Association. *I. A. Crawford, M. J. Barlow, & J. C. Blades.* 336, 212, 3-F8 (1989)

Interstellar Absorption Lines in the Galaxy NGC 1705. *D. G. York, A. Caulet, P. Rybski, J. Gallagher, J. C. Blades, D. C. Morton, & W. Wamsteker.* 351, 412, 45-B9 (1990)

A Precise Measurement of the Cosmic Background Radiation at 1.32 Millimeters. *E. Palazzi, N. Mandolesi, Philippe Crane, Marc L. Kutner, J. C. Blades, & Dennis J. Hegyi.* 357, 14, 111-C3 (1990)

Optical Spectroscopy of the High-Latitude Cloud Lynds 1569. *B. E. Penprase, J. C. Blades, A. C. Danks, & P. Crane.* 365, 241, 209-B7 (1990)

BLADES, J. CHRIS. An O3 Star in the Small Magellanic Cloud H II Region NGC 346. *Nolan R. Walborn & J. Chris Blades.* 304, L17, 61-B4 (1986)

Recent Massive Star Formation in 30 Doradus. *Nolan R. Walborn & J. Chris Blades.* 323, L65, 158-E6 (1987)

Observations of High-Redshift Ca II Absorption in QSO Spectra. *J. Gordon Robertson, Donald C. Morton, J. Chris Blades, Donald G. York, & David M. Meyer.* 325, 635, 27-D13 (1988)

BLAES, O. Neutron Starquake Models for Gamma-Ray Bursts. *O. Blaes, R. Blandford, P. Goldreich, & P. Madau.* 343, 839, 129-F1 (1989)

Slowly Accreting Neutron Stars and the Origin of Gamma-Ray Bursts. *O. Blaes, R. Blandford, P. Madau, & S. Koonin.* 363, 612, 191-G1 (1990)

BLAES, O. M. A New Example of the Papaloizou-Pringle Instability. *M. A. Abramowicz, O. M. Blaes, & P. Ghosh.* 323, 629, 161-E10 (1987)

The Dominant Local Instabilities in an Einstein–de Sitter Universe. *O. M. Blaes, P. M. Goldreich, & J. V. Villumsen.* 361, 331, 162-C4 (1990)

BLAES, OMER M. Nonaxisymmetric Disk Instabilities: A Linear and Nonlinear Synthesis. *Omer M. Blaes & John F. Hawley.* 326, 277, 35-C1 (1988)

BLAIR, D. G. The Evolution of Radio Pulsars. *B. N. Candy & D. G. Blair.* 307, 535, 102-G1 (1986)

The Evolution of Radio Pulsars: Erratum. *B. N. Candy & D. G. Blair.* 324, 1221, 17-A12 (1988) (Orig. paper in 307, 535, 102-G1 (1986))

BLAIR, W. P. A Comparison of High-Resolution Radio and Optical Data for the Northeast Region of the Cygnus Loop. *W. C. Straka, J. R. Dickel, W. P. Blair, & R. A. Fesen.* 306, 266, 84-C2 (1986)

Spatial and Spectral Interpretation of a Bright Filament in the Cygnus Loop. *J. C. Raymond, J. J. Hester, D. Cox, W. P. Blair, R. A. Fesen, & T. R. Gull.* 324, 869, 13-A1 (1988)

BLAIR, WILLIAM P. Discovery of Fast-moving Nitrogen-rich Ejecta in the Supernova Remnant Cassiopeia A. *Robert A. Fesen, Robert H. Becker, & William P. Blair.* 313, 378, 19-B3 (1987)

An Improved Proper-Motion Measurement of SN 1006. *Knox S. Long, William P. Blair, & Sidney van den Bergh.* 333, 749, 149-D7 (1988)

High-Velocity, Nonradiative Shock Emission in Kepler's Supernova Remnant. *Robert A. Fesen, Robert H. Becker, William P. Blair, & Knox S. Long.* 338, L13, 40-C6 (1989)

The Ultraviolet Spectrum of an Oxygen-rich Supernova Remnant in the Small Magellanic Cloud. *William P. Blair, John C. Raymond, John Danziger, & Francesca Matteucci.* 338, 812, 44-A9 (1989)

Discovery of Optical Emission from the Remnant of SN 1957D in M83. *Knox S. Long, William P. Blair, & Wojciech Krzeminski.* 340, L25, 75-E4 (1989)

The Penultimate Supernova in the Large Magellanic Cloud: SNR 0540−69.3. *Robert P. Kirshner, Jon A. Morse, P. Frank Winkler, & William P. Blair.* 342, 260, 104-B1 (1989)

An Atlas of Confirmed and Candidate Supernova Remnants in M33. *Knox S. Long, William P. Blair, Robert P. Kirshner, & P. Frank Winkler.* 72, 61, 2-B1 (1990)

Optical Identification of Dust within the Crab Nebula's Filaments. *Robert A. Fesen & William P. Blair.* 351, L45, 49-D6 (1990)

The Identification of Balmer-dominated Filaments in RCW 86. *Knox S. Long & William P. Blair.* 358, L13, 127-B6 (1990)

BLAIS, KRISTIN A. A Catalog of Observations for Stellar Masers. *Priscilla J. Benson, Irene R. Little-Marenin, Tara C. Woods, Joanne M. Attridge, Kristin A. Blais, Dana B. Rudolph, Myra E. Rubiera, & Heidi L. Keefe.* 74, 911, 44-B7 (1990)

BLAKE, GEOFFREY A. Chemistry of Chlorine in Dense Interstellar Clouds. *Geoffrey A. Blake, V. G. Anicich, & W. T. Huntress, Jr.* 300, 415, 5-E9 (1986)

The Rotational Emission-Line Spectrum of Orion A between 247 and 263 GHz. *Geoffrey A. Blake, E. C. Sutton, C. R. Masson, & T. G. Phillips.* 60, 357, 5-A14 (1986)

The Laboratory Millimeter-Wave Spectrum of Methyl Formate in Its Ground Torsional *E* State. *Grant M. Plummer, Eric Herbst, Frank C. De Lucia, & Geoffrey A. Blake.* 60, 949, 15-A2 (1986)

Direct Measurement of the Fine-Structure Interval and g_J Factors of Singly Ionized Atomic Carbon by Laser Magnetic Resonance. *Andrew L. Cooksy, Geoffrey A. Blake, & Richard J. Saykally.* 305, L89, 80-E11 (1986)

Excitation of Methyl Cyanide in the Hot Core of Orion. *E. C. Sutton, Geoffrey A. Blake, R. Genzel, C. R. Masson, & T. G. Phillips.* 311, 921, 158-A1 (1986)

Comparison of Submillimeter and Ultraviolet Observations of Neutral Carbon toward Zeta Ophiuchi. *Jocelyn Keene, Geoffrey A. Blake, & T. G. Phillips.* 313, 396, 19-D1 (1987)

Molecular Abundances in OMC-1: The Chemical Composition of Interstellar Molecular Clouds and the Influence of Massive Star Formation. *Geoffrey A. Blake, E. C. Sutton, C. R. Masson, & T. G. Phillips.* 315, 621, 47-D9 (1987)

Laboratory Measurement of the Pure Rotational Spectrum of Vibrationally Excited HCO^+ ($\nu = 1$) by Far-Infrared Laser Sideband Spectroscopy. *Geoffrey A. Blake, K. B. Laughlin, R. C. Cohen, Kerry L. Busarow, & R. J. Saykally.* 316, L45, 56-D7 (1987)

The Abundances of Atomic Carbon and Carbon Monoxide Compared with Visual Extinction in the Ophiuchus Molecular Cloud Complex. *Margaret A. Frerking, Jocelyn Keene, Geoffrey A. Blake, & T. G. Phillips.* 344, 311, 136-G10 (1989)

BLAKE, J. B. Possible Contributions by Wolf-Rayet Stars to the Protosolar Nebula: Extinct Radioactivities, or Grains of Truth from Wolf-Rayet Stars? *D. S. P. Dearborn & J. B. Blake.* 332, 305, 126-E1 (1988)

A Local Source of ^{26}Al Gamma Rays. *J. B. Blake & D. S. P. Dearborn.* 338, L17, 40-D1 (1989)

BLANCHARD, ALAIN. Nonlinear Clustering in the CfA Redshift Survey. *Jean-Michel Alimi, Alain Blanchard, & Richard Schaeffer.* 349, L5, 19-B1 (1990)

BLANCO, A. A Mixture of Hydrogenated Amorphous Carbon Grains and PAH Molecules: A Candidate for the Unidentified Infrared Bands? *A. Blanco, E. Bussoletti, & L. Colangeli.* 334, 875, 166-B1 (1988)

Hydrogenated Amorphous Carbon Grains in Comet Halley? *L. Colangeli, G. Schwehm, E. Bussoletti, S. Fonti, A. Blanco, & V. Orofino.* 348, 718, 11-D4 (1990)

Temperature Behavior of Infrared Spectra of Polycyclic Aromatic Hydrocarbons and the Unidentified Infrared Bands. *A. Blanco, S. Fonti, & V. Orofino.* 364, 152, 195-G12 (1990)

BLANCO, V. IRAS 18059−3211: Optically Known as "Gomez's Hamburger": Erratum. *M. T. Ruiz, V. Blanco, J. Maza, S. Heathcote, A. Phillips, K. Kawara, C. Anguita, M. Hamuy, & A. Gómez.* 320, L157, 121-F14 (1987) (Orig. paper in 316, L21, 56-B10 (1987))

BLANCO, V. M. Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

The Asymptotic Giant Branch of Magellanic Cloud Clusters. *Jay A. Frogel, Jeremy Mould, & V. M. Blanco.* 352, 96, 51-C5 (1990)

Galactic Bulge M Giants. II. Content and Structure of the Bulge between $b = -3°$ and $-12°$. *Jay A. Frogel, D. M. Terndrup, V. M. Blanco, & A. E. Whitford.* 353, 494, 70-B8 (1990)

The Large Magellanic Cloud Bar West Field. *Jay A. Frogel & V. M. Blanco.* 365, 168, 208-C1 (1990)

BLANCO, VICTOR. IRAS 18059−3211: Optically Known as "Gomez's Hamburger." *Maria Teresa Ruiz, Victor Blanco, José Maza, Steve Heathcote, Andrew Phillips, Kimiaki Kawara, Claudio Anguita, Mario Hamuy, & Arturo Gómez.* 316, L21, 56-B10 (1987)

BLANCO, VICTOR M. Southern Milky Way Carbon Stars: New Candidates, *JHK* Photometry, and Radial Velocities. *Marc Aaronson, Victor M. Blanco, Kem H. Cook, & Paul L. Schechter.* 70, 637, 27-D1 (1989)

Northern Milky Way Carbon Stars: New Candidates, *JHK* Photometry, and Radial Velocities. *Marc Aaronson, Victor M. Blanco, Kem H. Cook, Edward W. Olszewski, & Paul L. Schechter.* 73, 841, 29-F1 (1990)

BLAND, J. Michigan 160: Internal Kinematics and the Cosmic Distance Scale. *L. Staveley-Smith, J. Bland, D. J. Axon, R. D. Davies, & R. M. Sharples.* 364, 23, 194-C11 (1990)

BLAND, JONATHAN. Imaging Spectrophotometry of Ionized Gas in NGC 1068. I. Kinematics of the Narrow-Line Region. *Gerald Cecil, Jonathan Bland, & R. Brent Tully.* 355, 70, 87-G10 (1990)

BLANDFORD, R. Neutron Starquake Models for Gamma-Ray Bursts. *O. Blaes, R. Blandford, P. Goldreich, & P. Madau.* 343, 839, 129-F1 (1989)

Slowly Accreting Neutron Stars and the Origin of Gamma-Ray Bursts. *O. Blaes, R. Blandford, P. Madau, & S. Koonin.* 363, 612, 191-G1 (1990)

BLANDFORD, R. D. 1146+111B,C: A Giant Gravitational Lens? *R. D. Blandford, E. S. Phinney, & R. Narayan.* 313, 28, 15-C6 (1987)

BLANDFORD, ROGER. Flicker of Extragalactic Radio Sources and Refractive Interstellar Scintillation. *Roger Blandford, Ramesh Narayan, & Roger W. Romani.* 301, L53, 27-C3 (1986)

Fermat's Principle, Caustics, and the Classification of Gravitational Lens Images. *Roger Blandford & Ramesh Narayan.* 310, 568, 140-A8 (1986)

BLANDFORD, ROGER D. Gravitational Imaging by Isolated Elliptical Potential Wells. I. Cross Sections. *Roger D. Blandford & Christopher S. Kochanek.* 321, 658, 131-F1 (1987)

Gravitaional Imaging by Isolated Elliptical Potential Wells. II. Probability Distributions. *Christopher S. Kochanek & Roger D. Blandford.* 321, 676, 132-A3 (1987)

Numerical Simulations of Magnetized Jets. *Kevin R. Lind, David G. Payne, David L. Meier, & Roger D. Blandford.* 344, 89, 134-B8 (1989)

BLANEY, K. B. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

BLASKIEWICZ, M. Timing and Scintillations of the Millisecond Pulsar 1937+214. *J. M. Cordes, A. Wolszczan, R. J. Dewey, M. Blaskiewicz, & D. R. Stinebring.* 349, 245, 17-A1 (1990)

Polarization of the Binary Radio Pulsar 1913+16: Constraints on Geodetic Precession. *J. M. Cordes, I. Wasserman, & M. Blaskiewicz.* 349, 546, 22-B1 (1990)

BLEEKER, J. A. M. The High-Resolution Soft X-Ray Spectrum of HZ 43. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, E. H. B. M. Gronenschild, & J. Heise.* 308, 190, 110-B6 (1986)

Measurement of the EUV Spectrum of the Hot White Dwarf Feige 24. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, & J. Heise.* 309, L33, 125-E10 (1986)

The High-Resolution Photospheric Soft X-Ray Spectrum of Sirius B. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, & J. Heise.* 329, 849, 86-D1 (1988)

EXOSAT Observations of the Cassiopeia A Supernova Remnant. *F. Jensen, A. Smith, J. A. M. Bleeker, P. A. J. de Korte, A. Peacock, & N. E. White.* 331, 949, 119-D4 (1988)

The High-Resolution Soft X-Ray Spectrum of HZ 43. II. Bolometric X-Ray Flux, Effective Temperature, and Radius. *J. Heise, F. B. S. Paerels, J. A. M. Bleeker, & A. C. Brinkman.* 334, 958, 167-B1 (1988)

BLEWITT, G. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

BLITZ, L. Molecular Gas in the Type 1 Seyfert Galaxy NGC 7469: Implications for Nuclear Activity. *T. M. Heckman, S. Beckwith, L. Blitz, M. Skrutskie, & A. S. Wilson.* 305, 157, 68-F2 (1986)

A Molecular Cloud in the Local, Hot Interstellar Medium. *L. M. Hobbs, L. Blitz, & L. Magnani.* 306, L109, 94-C1 (1986)

On the Nearest Molecular Clouds. II. MBM 12 and 16. *L. M. Hobbs, L. Blitz, B. E. Penprase, L. Magnani, & D. E. Welty.* 327, 356, 50-G10 (1988)

A Millimeter-Wave Survey of CO Emission in Seyfert Galaxies. *T. M. Heckman, L. Blitz, A. S. Wilson, L. Armus, & G. K. Miley.* 342, 735, 111-E4 (1989)

On the Nearest Molecular Clouds. III. MBM 40, 53, 54, and 55. *D. E. Welty, L. M. Hobbs, L. Blitz, & B. E. Penprase.* 346, 232, 169-A8 (1989)

CO and *IRAS* Detection of an Intermediate-Velocity Cloud. *F. X. Désert, D. Bazell, & L. Blitz.* 355, L51, 98-E1 (1990)

BLITZ, LEO. Detection of Clump and Interclump Gas in the Rosette Molecule Cloud Complex. *Leo Blitz & Antony A. Stark.* 300, L89, 13-F11 (1986)

High-Latitude Molecular Clouds: Completeness of the Local Sample and Implications for Molecular Surveys. *Loris Magnani, Elizabeth A. Lada, & Leo Blitz.* 301, 395, 18-B9 (1986)

Infrared Cirrus and High-Latitude Molecular Clouds. *Janet L. Weiland, Leo Blitz, Eli Dwek, M. G. Hauser, Loris Magnani, & Lee J Rickard.* 306, L101, 94-B6 (1986)

The Size Spectrum of Molecular Clouds in the Outer Galaxy. *Susan Terebey, Michel Fich, Leo Blitz, & Christian Henkel.* 308, 357, 112-A1 (1986)

CO Emission from Seyfert Galaxies: Further Observations. *Leo Blitz, Robert D. Mathieu, & John Bally.* 311, 142, 147-E9 (1986)

A New Assault on the 92 Centimeter Line of D I. *Leo Blitz & Carl Heiles.* 313, L95, 27-E9 (1987)

Molecular Abundances in the High-Latitude Molecular Clouds. *Loris Magnani, Leo Blitz, & Jan G. A. Wouterloot.* 326, 909, 43-E1 (1988)

Two Populations of Diffuse Molecular Clouds. *Elizabeth A. Lada & Leo Blitz.* 326, L69, 41-C9 (1988)

Broad-Wing Molecular Lines without Internal Energy Sources. *Leo Blitz, Loris Magnani, & Amri Wandel.* 331, L127, 122-A4 (1988)

CH Observations of Diffuse Molecular Clouds. *Loris Magnani, Elizabeth A. Lada, Göran Sandell, & Leo Blitz.* 339, 244, 53-A4 (1989)

The Rotation Curve of the Milky Way to $2R_0$. *Michel Fich, Leo Blitz, & Antony A. Stark.* 342, 272, 104-C2 (1989)

Molecular Clouds without Detectable CO. *Leo Blitz, David Bazell, & F. Xavier Désert.* 352, L13, 55-B11 (1990)

High-Resolution CO Images of Seyfert Galaxies. *Margaret Meixner, Richard Puchalsky, Leo Blitz, Melvyn Wright, & Tim Heckman.* 354, 158, 76-A1 (1990)

Structure in Small Molecular Clouds: Pedestals and Clumping. *Loris Magnani, John M. Carpenter, Leo Blitz, Namir E. Kassim, & Biman B. Nath.* 73, 747, 28-D3 (1990)

BLOCH, J. J. Observations of the Soft X-Ray Diffuse Background at 0.1 keV. *J. J. Bloch, K. Jahoda, M. Juda, D. McCammon, W. T. Sanders, & S. L. Snowden.* 308, L59, 120-F8 (1986)

BLOEMEN, HANS. A Gamma-Ray Constraint on the Nature of Dark Matter. *Joseph Silk & Hans Bloemen.* 313, L47, 27-B5 (1987)

BLOEMEN, J. B. G. M. High-Energy Gamma Rays Probing Cosmic-Ray Spectral Differences thoughout the Galaxy. *J. B. G. M. Bloemen.* 317, L15, 71-B5 (1987)

On Stable Hydrostatic Equilibrium Configurations of the Galaxy and Implications for Its Halo. *J. B. G. M. Bloemen.* 322, 694, 147-D1 (1987)

BLOEMHOF, E. E. High Spatial Resolution 10 Micron Imaging of IRC +10216. *E. E. Bloemhof, W. C. Danchi, C. H. Townes, & R. A. McLaren.* 333, 300, 141-D2 (1988)

BLONDIN, JOHN M. Hypercritical Spherical Accretion onto Compact Objects. *John M. Blondin.* 308, 755, 117-C1 (1986)

Pair-Creation Effects in Accretion Shock Models of Active Galactic Nuclei. *John M. Blondin & Arieh Königl.* 323, 451, 159-E1 (1987)

Herbig-Haro Objects as the Heads of Radiative Jets. *John M. Blondin, Arieh Königl, & Bruce A. Fryxell.* 337, L37, 25-D1 (1989)

The Growth of Density Perturbations in Radiative Shocks. *John M. Blondin & Denis F. Cioffi.* 345, 853, 161-C1 (1989)

Hydrodynamic Simulations of Stellar Wind Disruption by a Compact X-Ray Source. *John M. Blondin, Timothy R. Kallman, Bruce A. Fryxell, & Ronald E. Taam.* 356, 591, 107-E9 (1990)

The Structure and Evolution of Radiatively Cooling Jets. *John M. Blondin, Bruce A. Fryxell, & Arieh Königl.* 360, 370, 150-G7 (1990)

BLOOM, S. D. Binding Energies of Q-Nuclei and Stellar Hydrogen Burning. *C. A. Hughes, S. D. Bloom, & G. J. Mathews.* 311, 485, 151-C10 (1986)

Binding Energies of Q-Nuclei and Stellar Hydrogen Burning: Erratum. *C. A. Hughes, S. D. Bloom, & G. J. Mathews.* 325, 520, 24-G8 (1988) (Orig. paper in 311, 485, 151-C10 (1986))

BLUDMAN, S. A. The Effects of Neutrino Transport on the Collapse of Iron Stellar Cores. *E. S. Myra, S. A. Bludman, Y. Hoffman, I. Lichenstadt, N. Sack, & K. A. Van Riper.* 318, 744, 89-B2 (1987)

BLUDMAN, SIDNEY A. Statistical Analysis of the Time Structure of the Neutrinos from Supernova 1987A. *Sidney A. Bludman & Paul J. Schinder.* 326, 265, 35-B3 (1988)

Neutrino Transport and the Prompt Mechanism for Type II Supernovae. *Eric S. Myra & Sidney A. Bludman.* 340, 384, 72-A9 (1989)

Radiative Transport in Spherical Static Spacetime: General Relativistic Tangent-Ray Method for the Variable Eddington Factors. *Paul J. Schinder & Sidney A. Bludman.* 346, 350, 170-D11 (1989)

BLUMENTHAL, GEORGE R. Contraction of Dark Matter Galactic Halos Due to Baryonic Infall. *George R. Blumenthal, S. M. Faber, Ricardo Flores, & Joel R. Primack.* 301, 27, 14-C6 (1986)

Very Large Scale Structure in an Open Cosmology of Cold Dark Matter and Baryons. *George R. Blumenthal, Avishai Dekel, & Joel R. Primack.* 326, 539, 39-D9 (1988)

Pregalactic Formation of Globular Clusters in Cold Dark Matter. *Edward I. Rosenblatt, S. M. Faber, & George R. Blumenthal.* 330, 191, 92-B2 (1988)

Projection Contamination in Cluster Catalogs: Are the Abell Redshift Sample Correlations Significant? *Avishai Dekel, George R. Blumenthal, Joel R. Primack, & Scot Olivier.* 338, L5, 40-B11 (1989)

Angular Clustering Properties of Gamma-Ray Bursts and Quantitative Constraints on Their Distances. *Dieter Hartmann & George R. Blumenthal.* 342, 521, 107-B7 (1989)

Angular Correlations in Decontaminated Abell Catalogs. *Scot Olivier, George R. Blumenthal, Avishai Dekel, Joel R. Primack, & David Stanhill.* 356, 1, 99-B1 (1990)

BOBROWSKY, M. Numerical Hydrodynamic Models of Planetary Nebulae. *M. Bobrowsky & D. M. Zipoy.* 347, 307, 185-G8 (1989)

BOCHSLER, P. Abundance of Iron Ions in the Solar Wind. *J. Schmid, P. Bochsler, & J. Geiss.* 329, 956, 87-E6 (1988)

BODE, M. F. Radio Observations of the 1985 Outburst of RS Ophiuchi. *R. M. Hjellming, J. H. van Gorkom, E. R. Seaquist, A. R. Taylor, S. Padin, R. J. Davis, & M. F. Bode.* 305, L71, 80-D9 (1986)

IRAS Observations of Collisionally Heated Dust in Large Magellanic Cloud Supernova Remnants. *James R. Graham, A. Evans, J. S. Albinson, M. F. Bode, & W. P. S. Meikle.* 319, 126, 94-D5 (1987)

A Detailed Study of the Remnant of Nova GK Persei and Its Environs. *E. R. Seaquist, M. F. Bode, D. A. Frail, J. A. Roberts, A. Evans, & J. S. Albinson.* 344, 805, 144-C1 (1989)

BODENHEIMER, P. On the Origin of the Orion and Monoceros Molecular Cloud Complexes. *J. Franco, G. Tenorio-Tagle, P. Bodenheimer, M. Różyczka, & I. F. Mirabel.* 333, 826, 149-D1 (1988)

BODENHEIMER, PETER. Double-Core Evolution. III. The Evolution of a 5 $M_{\odot}$ Red Giant with a 1 $M_{\odot}$ Companion. *Ronald E. Taam & Peter Bodenheimer.* 337, 849, 29-E1 (1989)

On the Formation and Expansion of H II Regions. *José Franco, Guillermo Tenorio-Tagle, & Peter Bodenheimer.* 349, 126, 15-E1 (1990)

Brown Dwarfs as Close Companions to White Dwarfs. *Guy S. Stringfellow, David C. Black, & Peter Bodenheimer.* 349, L59, 24-D1 (1990)

The Formation Phase of the Solar Nebula. *Peter Bodenheimer, Harold W. Yorke, Michał Różyczka, & Joel E. Tohline.* 355, 651, 96-F4 (1990)

BODENHEIMER, PETER H. The Crucial Role of Cooling in the Making of Molecular Clouds and Stars. *Joel E. Tohline, Peter H. Bodenheimer, & Dimitris M. Christodoulou.* 322, 787, 148-D9 (1987)

BODO, G. Current-driven Magnetohydrodynamic Thermal Instabilities in Sheared Fields. *G. Bodo, A. Ferrari, S. Massaglia, & R. Rosner.* 313, 432, 19-F10 (1987)

On the Thermal Instability of Galactic and Cluster Halos. *A. Malagoli, R. Rosner, & G. Bodo.* 319, 632, 101-G8 (1987)

The Equilibrium Structure of a Thin Magnetic Flux Tube. III. The Effects of Molecular CO Absorption. *S. Massaglia, G. Bodo, W. Kalkofen, & R. Rosner.* 333, 925, 150-D9 (1988)

On the Stability of Magnetized Rotating Jets: The Axisymmetric Case. *G. Bodo, R. Rosner, A. Ferrari, & E. Knobloch.* 341, 631, 93-A7 (1989)

Acceleration by Synchrotron Absorption and Superluminal Sources. *G. Ghisellini, G. Bodo, E. Trussoni, & M. J. Rees.* 362, L1, 174-A7 (1990)

BÖHM, K.-H. Kinematical and Hydrodynamical Study of the HH 32 Complex. *J. Solf, K.-H. Böhm, & A. C. Raga.* 305, 795, 77-E10 (1986)

Predicted Long-Slit, High-Resolution Emission-Line Profiles from Interstellar Bow Shocks. II. Arbitrary Bow Shock Orientation. *A. C. Raga & K.-H. Böhm.* 308, 829, 118-A7 (1986)

Ultraviolet Spectra of HH 1 and HH 2: Spatial Variations and the Continuum Problem. *K.-H. Böhm, Th. Bührke, A. C. Raga, E. W. Brugel, A. N. Witt, & R. Mundt.* 316, 349, 53-G7 (1987)

Time-dependent Bow Shocks and the Condensation Structure of Herbig-Haro Objects. *A. C. Raga & K.-H. Böhm.* 323, 193, 155-B10 (1987)

Spatially Resolved Spectra of HH 1 and Burnham's Nebula in the Range 3700 Å $\leq \lambda \leq$ 10830 Å. *J. Solf, K.-H. Böhm, & A. Raga.* 334, 229, 156-G5 (1988)

Spatially Resolved Echellette Spectroscopy of Low-Excitation Herbig-Haro Objects and Its Interpretation. *K.-H. Böhm & J. Solf.* 348, 297, 4-F7 (1990)

BOEHMER, LISA. *IRAS* Observations of Galaxies in the Virgo Cluster Area. *George Helou, Iffat R. Khan, Ladan Malek, & Lisa Boehmer.* 68, 151, 25-C1 (1988)

BÖHM-VITENSE, E. Problems with the Baade-Wesselink Method. *E. Böhm-Vitense, P. Garnavich, M. Lawler, J. Mena-Werth, S. Morgan, E. Peterson, & S. Temple.* 343, 343, 122-D4 (1989)

BÖHM-VITENSE, ERIKA. A Simple Explanation for the Linksy-Haisch Boundary Line for Transition Layers. *Erika Böhm-Vitense.* 301, 297, 17-B7 (1986)

The Cepheid Mass Problem and Cepheid Binaries. *Erika Böhm-Vitense.* 303, 262, 44-A4 (1986)

Theory of Transition-Layer Emission Measures and Coronae. *Erika Böhm-Vitense.* 317, 750, 74-C2 (1987)

Are Most Short-Period Cepheids Overtone Pulsators? *Erika Böhm-Vitense.* 324, L27, 9-C1 (1988)

Ultraviolet Extinction Differences within NGC 6530. *Don Boggs & Erika Böhm-Vitense.* 339, 209, 52-E6 (1989)

Ultraviolet Gas Absorption and Dust Extinction toward M8. *Don Boggs & Erika Böhm-Vitense.* 358, 441, 129-B1 (1990)

BÖHRINGER, H. Characteristics of Old Neutron Stars in Dense Interstellar Clouds. *H. Böhringer, G. E. Morfill, & H. U. Zimmermann.* 313, 218, 17-D1 (1987)

On the Dynamical Role of Cosmic Rays in Cooling Flows in Clusters of Galaxies. *H. Böhringer & G. E. Morfill.* 330, 609, 99-B7 (1988)

Heating of the Intracluster Medium. *A. Just, B. M. Deiss, W. H. Kegel, H. Böhringer, & G. E. Morfill.* 354, 400, 81-D1 (1990)

BOER, M. Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806–20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

BOERCKER, DAVID B. Collective Effects on Thomson Scattering in the Solar Interior. *David B. Boercker.* 316, L95, 62-D12 (1987)

BOESGAARD, ANN M. Lithium in F Stars of Known Age. *Ann M. Boesgaard & Michael J. Tripicco.* 313, 389, 19-C8 (1987)

BOESGAARD, ANN MERCHANT. Lithium in the Hyades Cluster. *Ann Merchant Boesgaard & Michael J. Tripicco.* 302, L49, 40-D13 (1986)

Short-Term Spectral Variability in AB Aurigae: Clues for Activity in Herbig Ae Stars. I. The Ultraviolet Lines of Mg II and Fe II. *Françoise Praderie, Theodore Simon, Claude Catala, & Ann Merchant Boesgaard.* 303, 311, 44-D13 (1986)

Lithium in Early F Dwarfs. *Ann Merchant Boesgaard & Michael J. Tripicco.* 303, 724, 50-D10 (1986)

Short-Term Spectral Variability in AB Aurigae: Clues for Activity in Herbig Ae Stars. II. The Ca II K Line. *Claude Catala, Paul Felenbok, Jean Czarny, Antonio Talavera, & Ann Merchant Boesgaard.* 308, 791, 117-E9 (1986)

Abundances in Beryllium-deficient F Stars. *Ann Merchant Boesgaard & Russell J. Lavery.* 309, 762, 129-E11 (1986)

Activity in F Stars. *Sidney C. Wolff, Ann Merchant Boesgaard, & Theodore Simon.* 310, 360, 136-A1 (1986)

Lithium in the Coma Cluster. *Ann Merchant Boesgaard.* 321, 967, 135-B2 (1987)

Lithium and Metallicity in the Ursa Major Group. *Ann Merchant Boesgaard, Kent G. Budge, & Elizabeth E. Burck.* 325, 749, 28-F10 (1988)

Lithium in the Pleiades and α Persei Clusters. *Ann Merchant Boesgaard, Kent G. Budge, & Mary Elizabeth Ramsay.* 327, 389, 51-C2 (1988)

Lithium in the Hyades, the Hyades Moving Group, and Praesepe. *Ann Merchant Boesgaard & Kent G. Budge.* 332, 410, 127-E11 (1988)

Metallicity in Galactic Clusters from High Signal-to-Noise Spectroscopy. *Ann Merchant Boesgaard.* 336, 798, 12-C8 (1989)

Beryllium Abundances in the Lithium-deficient Hyades F Stars. *Ann Merchant Boesgaard & Kent G. Budge.* 338, 875, 44-G1 (1989)

Chemical Composition of Open Clusters. I. Fe/H from High-Resolution Spectroscopy. *Ann Merchant Boesgaard & Eileen D. Friel.* 351, 467, 45-G10 (1990)

Chemical Composition of Open Clusters. II. C/H and C/Fe in F Dwarfs from High-Resolution Spectroscopy. *Eileen D. Friel & Ann Merchant Boesgaard.* 351, 480, 46-A11 (1990)

BOGDAN, T. J. Magnetohydrodynamic Stability of an Axisymmetric, Line-tied, Diamagnetic Plasmoid Embedded in a Uniform Magnetic Field: Erratum. *T. J. Bogdan.* 305, 954, 79-D10 (1986) (Orig. paper in 288, 672, 10-A13 (1985))

The Three-dimensional Structure of Magnetostatic Atmospheres. II. Modeling the Large-Scale Corona. *T. J. Bogdan & B. C. Low.* 306, 271, 84-C10 (1986)

Propagation of Compressive Waves through Fibril Magnetic Fields. *T. J. Bogdan & Ellen G. Zweibel.* 312, 444, 5-F10 (1987)

Propagation of Compressive Waves through Fibril Magnetic Fields. II. Scattering from a Slab of Magnetic Flux Tubes. *T. J. Bogdan.* 318, 888, 90-F4 (1987)

Propagation of Compressive Waves through Fibril Magnetic Fields. III. Waves that Propagate along the Magnetic Field. *T. J. Bogdan.* 318, 896, 90-F12 (1987)

Energetic Particle Acceleration in Spherically Symmetric Accretion Flows and Shocks. *G. M. Webb & T. J. Bogdan.* 320, 683, 117-C4 (1987)

Distribution of Sunspot Umbral Areas: 1917–1982. *T. J. Bogdan, Peter A. Gilman, I. Lerche, & Robert Howard.* 327, 451, 52-A5 (1988)

On the Progagation of Compressive Waves in a Radiating Magnetized Fluid. *T. J. Bogdan & M. Knölker.* 339, 579, 57-A10 (1989)

On the Interaction of the Solar Acoustic Oscillations with Convection. I. Scattering of Sound by Steady Vorticity. *T. J. Bogdan.* 339, 1132, 65-E7 (1989)

On the Resonance Scattering of Sound by Slender Magnetic Flux Tubes. *T. J. Bogdan.* 345, 1042, 163-D12 (1989)

Energetic Particle Acceleration in Spherically Symmetric Accretion Flows: Importance of a Momentum-dependent Diffusion Coefficient. *P. Schneider & T. J. Bogdan.* 347, 496, 188-B7 (1989)

BOGDAN, THOMAS J. Effects of Fibril Magnetic Fields on Solar *p*-Modes. II. Calculation of Mode Frequency Shifts. *Ellen G. Zweibel & Thomas J. Bogdan.* 308, 401, 112-D5 (1986)

The Normal Modes of a Resonant Cavity Containing Discrete Inhomogeneities: The Influence of Fibril Magnetic Fields on the Solar Acoustic Oscillations. *Thomas J. Bogdan & Fausto Cattaneo.* 342, 545, 107-D8 (1989)

BOGEY, MARCEL. Millimeter-Wave Laboratory Spectrum of Metastable Nitrogen Atoms, $^{14}N\ I\ ^2D_J$. *Marcel Bogey, Paul B. Davies, Ian H. Davis, & Jean Luc Destombes.* 339, L49, 58-E1 (1989)

BOGGESS, N. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

BOGGESS, N. W. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

BOGGS, DON. Ultraviolet Extinction Differences within NGC 6530. *Don Boggs & Erika Böhm-Vitense.* 339, 209, 52-E6 (1989)

Ultraviolet Gas Absorption and Dust Extinction toward M8. *Don Boggs & Erika Böhm-Vitense.* 358, 441, 129-B1 (1990)

BOGOD, V. M. Structure of a Solar Active Region from RATAN 600 and Very Large Array Observations. *Sh. B. Akhmedow, V. N. Borovik, G. B. Gelfreikh, V. M. Bogod, A. N. Korzhavin, Z. E. Petrov, V. N. Dikij, Kenneth R. Lang, & Robert F. Willson.* 301, 460, 18-G9 (1986)

BOHANNAN, BRUCE. Photospheres of Hot Stars. II. An Analysis of Zeta Puppis. *Bruce Bohannan, David C. Abbott, Stephen A. Voels, & D. G. Hummer.* 308, 728, 117-A1 (1986)

Failure of Continuum Methods for Determining the Effective Temperature of Hot Stars. *D. G. Hummer, David C. Abbott, Stephen A. Voels, & Bruce Bohannan.* 328, 704, 70-G1 (1988)

Photospheres of Hot Stars. III. Luminosity Effects at Spectral Type O9.5. *Stephen A. Voels, Bruce Bohannan, David C. Abbott, & D. G. Hummer.* 340, 1073, 81-F1 (1989)

Photospheres of Hot Stars. IV. Spectral Type O4. *Bruce Bohannan, Stephen A. Voels, David G. Hummer, & David C. Abbott.* 365, 729, 217-C13 (1990)

BOHLENDER, D. A. The Magnetic Field and Abundance Distribution Geometry of the Peculiar B Star HD 215441. *J. D. Landstreet, P. K. Barker, D. A. Bohlender, & M. S. Jewison.* 344, 876, 145-B2 (1989)

BOHLENDER, DAVID A. Magnetic Field Measurements of Helium-strong Stars. *David A. Bohlender, Douglas N. Brown, J. D. Landstreet, & Ian B. Thompson.* 323, 325, 156-E8 (1987)

Delta Orionis C and HD 58260: Peculiar Helium-strong Stars? *David A. Bohlender.* 346, 459, 171-G1 (1989)

The Discovery of Magnetically Controlled Circumstellar Matter in the Helium-weak Stars HD 5737 and HD 79158. *Steven N. Shore, Douglas N. Brown, George Sonneborn, John D. Landstreet, & David A. Bohlender.* 348, 242, 4-A5 (1990)

Optical Spectrum Variations of the Helium-strong Star HD 64740. *David A. Bohlender & J. D. Landstreet.* 358, 274, 125-E1 (1990)

The Weak Magnetic Field of the Ap Star Epsilon Ursae Majoris. *David A. Bohlender & J. D. Landstreet.* 358, L25, 127-C11 (1990)

BOHLIN, R. C. The Unusual Dust-Scattering Properties in the Reflection Nebula CED 201. *A. N. Witt, R. C. Bohlin, T. P. Stecher, & S. M. Graff.* 321, 912, 134-E1 (1987)

The Ultraviolet Calibration of the *Hubble Space Telescope*. IV. Absolute *IUE* Fluxes of *Hubble Space Telescope* Standard Stars. *R. C. Bohlin, A. W. Harris, A. V. Holm, & C. Gry.* 73, 413, 24-B1 (1990)

BOHLIN, RALPH C. Colors of Reflection Nebulae. III. Ultraviolet Scattering by Small Particles in Reflection Nebulae Associated with 17, 20, and 23 Tauri. *Adolf N. Witt, Ralph C. Bohlin, & Theodore P. Stecher.* 302, 421, 32-G7 (1986)

Detection of Scattering in the 2175 Å Interstellar Band. *Adolf N. Witt, Ralph C. Bohlin, & Theodore P. Stecher.* 305, L23, 74-B11 (1986)

The Ultraviolet Calibration of the Hubble Space Telescope. I. Secondary Standards of Absolute Ultraviolet Flux and the Recalibration of *IUE*. *Ralph C. Bohlin.* 308, 1001, 120-A9 (1986)

The Ultraviolet Calibration of the Hubble Space Telescope. II. A Correction for the Change in Sensitivity of the SWP Camera on the *IUE*. *Ralph C. Bohlin & Carl J. Grillmair.* 66, 209, 4-D1 (1988)

The Ultraviolet Calibration of the Hubble Space Telescope. III. A Correction for the Change in Sensitivity of the LWR Camera on *IUE*. *Ralph C. Bohlin & Carl J. Grillmair.* 68, 487, 30-B1 (1988)

Images in the Rocket Ultraviolet: UV Fluxes of M31 Globular Clusters. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, & Theodore P. Stecher.* 334, 657, 163-E8 (1988)

UV Fluorescence of Molecular Hydrogen and Red Dust Emission in the Gamma Cassiopeiae Nebulae IC 63. *Adolf N. Witt, Theodore P. Stecher, Todd A. Boroson, & Ralph C. Bohlin.* 336, L21, 8-D2 (1989)

Images in the Rocket Ultraviolet: Star Formation and Extinction in the M51 System. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert W. O'Connell, & Theodore P. Stecher.* 352, 55, 50-F13 (1990)

Images in the Rocket Ultraviolet: Young Clusters in H II Regions of M83. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, & Theodore P. Stecher.* 363, 154, 184-A9 (1990)

BOHME, D. K. Novel Chemical Role for Polycyclic Aromatic Hydrocarbons in the Synthesis of Interstellar Molecules. *D. K. Bohme, S. Wlodek, & H. Wincel.* 342, L91, 117-E11 (1989)

BOICE, D. C. Polyoxymethylene in Comet Halley. *W. F. Huebner, D. C. Boice, & C. M. Sharp.* 320, L149, 121-F7 (1987)

BOISSEAU, JOHN R. The Radiative Signature of the Shock Acceleration Process in Active Galactic Nuclei. *Joel N. Bregman & John R. Boisseau.* 347, 118, 183-E7 (1989)

BOKSENBERG, A. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

High-Resolution Spectra of 24 Low-Redshift QSOs: The Properties of Mg II Absorption Systems. *David Tytler, A. Boksenberg,*

Wallace L. W. Sargent, Peter Young, & Daniel Kunth. 64, 667, 27-B8 (1987)

A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V. Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)

QSO Absorption Lines and the Time Scale for Initial Heavy-Element Enrichment in Galaxies. *Charles C. Steidel, Wallace L. W. Sargent, & A. Boksenberg.* 333, L5, 144-A9 (1988)

Mg II Absorption in the Spectra of High and Low Redshift QSOs. *Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 334, 22, 154-C3 (1988)

C IV Absorption in a New Sample of 55 QSOs: Evolution and Clustering of the Heavy-Element Absorption Redshifts. *Wallace L. W. Sargent, A. Boksenberg, & Charles C. Steidel.* 68, 539, 31-D1 (1988)

A Survey of Lyman-Limit Absorption in the Spectra of 59 High-Redshift QSOs. *Edward B. Jenkins, Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 69, 703, 12-B1 (1989)

The Lyman Limit Absorption System in the Spectrum of PKS 2126–158: Heavy-Element Abundance at High Redshift. *Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 351, 364, 44-D11 (1990)

BOKSENBERG, ALEC. PG 0832+676: An Apparently Normal B1 V Star 18 Kiloparsecs above the Galactic Plane. *Paul J. F. Brown, Philip L. Dufton, Francis P. Keenan, Alec Boksenberg, David L. King, & Max Pettini.* 339, 397, 55-A2 (1989)

Metal Enrichment, Dust, and Star Formation in Galaxies at High Redshifts. I. The $z = 2.3091$ Absorber toward PHL 957. *Max Pettini, Alec Boksenberg, & Richard W. Hunstead.* 348, 48, 1-F1 (1990)

BOLDT, E. X-Ray Study of Superclusters. *M. Persic, K. Jahoda, Y. Rephaeli, E. Boldt, F. E. Marshall, R. F. Mushotzky, & G. Rawley.* 364, 1, 194-A12 (1990)

BOLDT, E. A. The Autocorrelation Properties of Fluctuations in the Cosmic X-Ray Background. *M. Persic, G. De Zotti, E. A. Boldt, F. E. Marshall, L. Danese, A. Franceschini, & G. G. C. Palumbo.* 336, L47, 16-E1 (1989)

Contributions of Low-Luminosity Sources to the X-Ray Background. *M. Persic, G. De Zotti, L. Danese, G. G. C. Palumbo, A. Franceschini, E. A. Boldt, & F. E. Marshall.* 344, 125, 134-E10 (1989)

Constraints on Large-Scale Clustering from the Autocorrelation Properties of the X-Ray Background. *G. De Zotti, M. Persic, A. Franceschini, L. Danese, G. G. C. Palumbo, E. A. Boldt, & F. E. Marshall.* 351, 22, 38-C10 (1990)

A Catalog of X-Ray Measurements of Selected Samples of Active Galaxies and Nuclei. *R. Della Ceca, G. G. C. Palumbo, M. Persic, E. A. Boldt, G. De Zotti, & F. E. Marshall.* 72, 471, 8-G7 (1990)

BOLDT, ELIHU. Constraints on Possible Precursor AGN Sources of the Cosmic X-Ray Background. *Elihu Boldt & Darryl Leiter.* 322, L1, 145-A4 (1987)

A Bound on X-Ray Emission from the Intrasupercluster Medium. *Massimo Persic, Yoel Rephaeli, & Elihu Boldt.* 327, L1, 53-A4 (1988)

The X-Ray Flux Dipole of Active Galactic Nuclei and the Peculiar Motion of the Local Group. *Takamitsu Miyaji & Elihu Boldt.* 353, L3, 67-A11 (1990)

BOLTE, MICHAEL. Main-Sequence CCD Photometry of the Globular Cluster NGC 362. *Michael Bolte.* 315, 469, 45-G6 (1987)

Deep CCD Photometry of the Globular Cluster NGC 7099. *Michael Bolte.* 319, 760, 103-D1 (1987)

The Low-Luminosity X-Ray Sources in Omega Centauri. *Bruce Margon & Michael Bolte.* 321, L61, 129-F11 (1987)

Mass Segregation in the Globular Cluster M30. *Michael Bolte.* 341, 168, 86-A7 (1989)

BOLTON, C. T. The Optical Spectrum of HDE 226868=Cygnus X-1. II. Spectrophotometry and Mass Estimates. *D. R. Gies & C. T. Bolton.* 304, 371, 58-A2 (1986)

The Optical Spectrum of HDE 226868=Cygnus X-1. III. A Focused Stellar Wind Model for He II λ4686 Emission. *D. R. Gies & C. T. Bolton.* 304, 389, 58-B6 (1986)

The Binary Frequency and Origin of the OB Runaway Stars. *D. R. Gies & C. T. Bolton.* 61, 419, 23-A3 (1986)

The Mass of the Classical Cepheid SU Cygni. *Nancy Remage Evans & C. T. Bolton.* 356, 630, 108-A12 (1990)

BONATTO, CHARLES J. The Nuclear Region of NGC 7469. *Charles J. Bonatto & Miriani G. Pastoriza.* 353, 445, 69-E4 (1990)

BOND, HOWARD E. Nitrogen and Sulfur Overabundances in the Population II Supergiant HD 46703. *Howard E. Bond & R. Earle Luck.* 312, 203, 3-B10 (1987)

PG 0122+200: A New Member of the GW Virginis (PG 1159–035) Class of Extremely Hot Pulsating White Dwarfs. *Howard E. Bond & Albert D. Grauer.* 321, L123, 137-C1 (1987)

A Search for Pulsating Stars Similar to PG 1159–035 and K1-16. *Albert D. Grauer, Howard E. Bond, James Liebert, Thomas A. Fleming, & Richard F. Green.* 323, 271, 156-A10 (1987)

s-Process Deficiencies in Low-Mass Supergiant Variables. *R. Earle Luck & Howard E. Bond.* 342, 476, 106-E8 (1989)

A Compact Planetary Nebula around the Hot White Dwarf EGB 6/PG 0950+139. *James Liebert, Richard Green, Howard E. Bond, J. B. Holberg, F. Wesemael, Thomas A. Fleming, & Kenneth Kidder.* 346, 251, 169-C3 (1989)

Supergiants and the Galactic Metallicity Gradient. II. Spectroscopic Abundances for 64 Distant F- to M-Type Supergiants. *R. Earle Luck & Howard E. Bond.* 71, 559, 43-F5 (1989)

Discovery of an Inner Light-Echo Ring around SN 1987A. *Howard E. Bond, Roberto Gilmozzi, Michael G. Meakes, & Nino Panagia.* 354, L49, 86-C1 (1990)

Morphologies of Planetary Nebulae Ejected by Close-Binary Nuclei. *Howard E. Bond & Mario Livio.* 355, 568, 95-E1 (1990)

Chemical Compositions of Four High-Latitude A–F Supergiants. *R. Earle Luck, Howard E. Bond, & David L. Lambert.* 357, 188, 113-D3 (1990)

BOND, I. A. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

BOND, J. R. The Statistics of Peaks of Gaussian Random Fields. *J. M. Bardeen, J. R. Bond, N. Kaiser, & A. S. Szalay.* 304, 15, 54-B6 (1986)

Spectrum and Anisotropy of the Cosmic Infrared Background. *J. R. Bond, B. J. Carr, & C. J. Hogan.* 306, 428, 89-B9 (1986)

Cosmic Fluctuation Spectra with Large-Scale Power. *J. M. Bardeen, J. R. Bond, & G. Efstathiou.* 321, 28, 122-D1 (1987)

Lyman-Alpha Clouds as a Relic of Primordial Density Fluctuations. *J. R. Bond, A. S. Szalay, & J. Silk.* 324, 627, 10-C1 (1988)

BONELLI, G. The Temperature of the Diffuse Background Radiation at 12 Centimeter Wavelength. *G. Sironi & G. Bonelli.* 311, 418, 150-E13 (1986)

The Absolute Temperature of the Sky and the Temperature of the Cosmic Background Radiation at 600 MHz. *G. Sironi, M. Limon, G. Marcellino, G. Bonelli, M. Bersanelli, G. Conti, & K. Reif.* 357, 301, 116-C11 (1990)

X-Ray and Ultraviolet Observations of the Seyfert Galaxy MCG 8-11-11. *A. Treves, G. Bonelli, L. Chiappetti, R. Falomo, L. Maraschi, G. Tagliaferri, & E. G. Tanzi.* 359, 98, 135-C7 (1990)

BONFAND, E. A Study of $E > 4$ MeV Gamma Radiation from the Galactic Disk in the Region $-20° < l < 20°$. *J. M. Lavigne, P. Mandrou, M. Niel, B. Agrinier, E. Bonfand, & B. Parlier.* 308, 370, 112-A14 (1986)

BONNEAU, D. Evidence from Michelson Interferometry for Small-Scale Structure in the Source Geometry of the M0 Giant β Andromedae. *G. P. Di Benedetto & D. Bonneau.* 358, 617, 131-B11 (1990)

BONNER, W. B. Average Density in Cosmology. *W. B. Bonner.* 316, 49, 50-E7 (1987)

BONNET, R. M. A Comparison of Photospheric Electric Current and Ultraviolet and X-Ray Emission in a Solar Active Region.

Bernhard M. Haisch, Marilyn E. Bruner, M. J. Hagyard, & R. M. Bonnet. 300, 428, 5-F8 (1986)

BONNET-BIDAUD, J.-M. X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215−086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

BONNOR, W. B. Models of Voids in the Expanding Universe. *W. B. Bonnor & A. Chamorro.* 361, 21, 157-C7 (1990)

BONOMETTI, R. J. VLBI Observations of 23 Hot Spots in the Starburst Galaxy M82: *N. Bartel, M. I. Ratner, A. E. E. Rogers, I. I. Shapiro, R. J. Bonometti, N. L. Cohen, M. V. Gorenstein, J. M. Marcaide, & R. A. Preston.* 323, 505, 160-B3 (1987)

VLBI Observations of the Gravitational Lens System 0957+561: Structure and Relative Magnification of the A and B Images. *M. V. Gorenstein, N. L. Cohen, I. I. Shapiro, A. E. E. Rogers, R. J. Bonometti, E. E. Falco, N. Bartel, & J. M. Marcaide.* 334, 42, 154-E1 (1988)

BONOMETTO, SILVIO A. A Path-Integral Approach to Large-Scale Matter Distribution Originated by Non-Gaussian Fluctuations. *Sabino Matarrese, Francesco Lucchin, & Silvio A. Bonometto.* 310, L21, 138-B9 (1986)

Optical Bias and Hierarchical Clustering. *Silvio A. Bonometto, Francesco Lucchin, & Sabino Matarrese.* 323, 19, 153-C6 (1987)

Biased Theories of Galaxy Formation with Arbitrary Threshold Functions and Background Distribution. *Stefano Borgani & Silvio A. Bonometto.* 348, 398, 7-E3 (1990)

Statistics of Matter Distribution from Halo Dynamics. *Silvio A. Bonometto, Stefano Borgani, Massimo Persic, & Paolo Salucci.* 356, 350, 104-E12 (1990)

BOOKBINDER, J. *Einstein Observatory* Survey of X-Ray Emission from Solar-Type Stars: The Late F and G Dwarf Stars. *A. Maggio, S. Sciortino, G. S. Vaiana, P. Majer, J. Bookbinder, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 315, 687, 48-B8 (1987)

Einstein Observatory Magnitude-limited X-Ray Survey of Late-Type Giant and Supergiant Stars. *A. Maggio, G. S. Vaiana, B. M. Haisch, R. A. Stern, J. Bookbinder, F. R. Harnden, Jr., & R. Rosner.* 348, 253, 4-B3 (1990)

Dynamic Spectra of Radio Bursts from Flare Stars. *T. S. Bastian, J. Bookbinder, G. A. Dulk, & M. Davis.* 353, 265, 65-D1 (1990)

BOOKBINDER, J. A. Discovery of Radio Emission from AE Aquarii. *J. A. Bookbinder & D. Q. Lamb.* 323, L131, 164-D7 (1987)

BOOKBINDER, JAY A. Mg II Line Profiles of the Mira S Carinae. *Jay A. Bookbinder, Edward W. Brugel, & Alexander Brown.* 342, 516, 107-B2 (1989)

Stringent Limits on the Ionized Mass Loss from A and F Dwarfs. *Alexander Brown, Anthony Vealé, Philip Judge, Jay A. Bookbinder, & Ivan Hubeny.* 361, 220, 159-F3 (1990)

IUE and *Einstein* Survey of Late-Type Giant and Supergiant Stars and the Dividing Line. *Bernhard M. Haisch, Jay A. Bookbinder, A. Maggio, G. S. Vaiana, & Jeffrey O. Bennett.* 361, 570, 165-B8 (1990)

BOOTH, J. F. The Rotation Period and Inclination Angle of T Tauri. *W. Herbst, J. F. Booth, P. F. Chugainov, G. V. Zajtseva, W. Barksdale, E. Covino, L. Terranegra, A. Vittone, & F. Vrba.* 310, L71, 145-A13 (1986)

BOOTH, JOHN. Planetary Nebulae as Standard Candles. III. The Distance to M81. *George H. Jacoby, Robin Ciardullo, Holland C. Ford, & John Booth.* 344, 704, 143-B1 (1989)

A Study of the Eclipsing Cataclysmic Variable Lanning 90. *Peter M. Garnavich, Paula Szkody, Mario Mateo, Laurie Feinswog, John Booth, Bret Goodrich, H. Richard Miller, Michael T. Carini, & John W. Wilson.* 365, 696, 216-G13 (1990)

BOOTH, R. Images of Four Compact Steep-Spectrum Quasars with a Resolution of 20 Milliarcseconds at 329.1 MHz. *R. S. Simon, A. C. S. Readhead, A. T. Moffet, P. N. Wilkinson, R. Booth, B. Allen, & B. F. Burke.* 354, 140, 75-F8 (1990)

BOOTH, R. S. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

VLBI and MERLIN Observations of 3C 120 at 1.7 GHz: Superluminal Motions beyond 0".05. *J. M. Benson, R. C. Walker, S. C. Unwin, T. W. B. Muxlow, P. N. Wilkinson, R. S. Booth, G. Pilbratt, & R. S. Simon.* 334, 560, 162-D9 (1988)

VLBI Observations of the OH Megamaser in IC 4553 (Arp 220). *P. J. Diamond, R. P. Norris, W. A. Baan, & R. S. Booth.* 340, L49, 83-B1 (1989)

The Structure of the Interstellar Medium at the 25 AU Scale. *P. J. Diamond, W. M. Goss, J. D. Romney, R. S. Booth, P. M. W. Kalberla, & U. Mebold.* 347, 302, 185-G3 (1989)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

BOOTH, ROY S. Multifrequency VLBI Observations of 4C 39.25: A Superluminal Source without a Well-defined Core. *Alan P. Marscher, David B. Shaffer, Roy S. Booth, & Barry J. Geldzahler.* 319, L69, 107-D7 (1987)

BOOTHROYD, ARNOLD I. On the Origin of the Solar System *s*-Process Abundances. *Robert A. Malaney & Arnold I. Boothroyd.* 320, 866, 119-C7 (1987)

Neutron Exposures in Time-dependent Stellar Convective Regions. *Robert A. Malaney, Martin J. Savage, & Arnold I. Booithroyd.* 324, 948, 14-A1 (1988)

Low-Mass Stars. I. Flash-driven Luminosity and Radius Variations for Low-Mass Stars. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 328, 632, 70-A10 (1988)

Low-Mass Stars. II. The Core Mass–Luminosity Relations for Low-Mass Stars. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 328, 641, 70-B5 (1988)

Low-Mass Stars. III. Low-Mass Stars with Steady Mass Loss: Up to the Asymptotic Giant Branch and through the Final Thermal Pulses. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 328, 653, 70-C3 (1988)

Low-Mass Stars. IV. The Production of Carbon Stars. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 328, 671, 70-D7 (1988)

Our Sun. I. The Standard Model: Successes and Failures. *I.-Juliana Sackmann, Arnold I. Boothroyd, & William A. Fowler.* 360, 727, 155-B9 (1990)

BOOZER, ALLEN H. Pfirsch-Schlüter Currents in Solar Plasmas. *Allen H. Boozer.* 325, 891, 30-C7 (1988)

BOPP, B. W. A Multiwavelength Study of the Carlson-Henize Sample of Early-Type Galactic Extreme Emission-Line Stars. *Steven N. Shore, Douglas N. Brown, B. W. Bopp, C. R. Robinson, N. Sanduleak, & P. D. Feldman.* 73, 461, 24-F11 (1990)

BOPP, BERNARD W. "Marginal" BY Draconis Stars. *Bernard W. Bopp.* 317, 781, 74-E8 (1987)

Hα Spectroscopy of Active Chromosphere Stars. I. Six G–K Giants. *Bernard W. Bopp, Robert C. Dempsey, & Steven Maniak.* 68, 803, 35-F1 (1988)

The Active Chromosphere Binary HD 17433 (VY Arietis). *Bernard W. Bopp, Steven H. Saar, Carol Ambruster, Paul Feldman, Robert Dempsey, Morgan Allen, & Samuel C. Barden.* 339, 1059, 64-G1 (1989)

A Study of Excess Hα Emission in Chromospherically Active M Dwarf Stars. *Arthur Young, Andrew Skumanich, John R. Stauffer, Bernard W. Bopp, & Eugene Harlan.* 344, 427, 138-C5 (1989)

Chromospheric Ca II H and K and Hα Emission in Single and Binary Stars of Spectral Types F6–M2. *Klaus G. Strassmeier, Francis C. Fekel, Bernard W. Bopp, Robert C. Dempsey, & Gregory W. Henry.* 72, 191, 4-D7 (1990)

BORDEN, DAVID. Superclustering in the Explosion Scenario. II. Prolate Spheroidal Shells from Superconducting Cosmic Strings. *David Borden, Jeremiah P. Ostriker, & David H. Weinberg.* 345, 607, 158-C1 (1989)

BOREIKO, R. T. Ground-based Observations of *IRAS* Candidates for Late Asymptotic Giant Branch Stars. *Sun Kwok, Bruce J. Hrivnak, & R. T. Boreiko.* 312, 303, 4-B14 (1987)

Solar Brightness Temperature at Submillimeter Wavelengths. *R. T. Boreiko & T. A. Clark.* 318, 445, 83-G2 (1987)

Ground-based Infrared Observations of Variable IRAS Sources as Candidates for Late Asymptotic Giant Branch Stars. *Sun Kwok, Bruce J. Hrivnak, & R. T. Boreiko.* 321, 975, 135-B10 (1987)

Heterodyne Spectroscopy of the 158 Micron C II Line in M42. *R. T. Boreiko, A. L. Betz, & J. Zmuidzinas.* 325, L47, 31-D9 (1988)

Neutral Atomic Carbon in Dense Molecular Clouds. *J. Zmuidzinas, A. L. Betz, R. T. Boreiko, & D. M. Goldhaber.* 335, 774, 181-B8 (1988)

Heterodyne Spectroscopy of the J=17–16 CO Line in Orion. *R. T. Boreiko, A. L. Betz, & J. Zmuidzinas.* 337, 332, 21-D11 (1989)

Heterodyne Spectroscopy of the J = 22–21 CO Line in Orion. *R. T. Boreiko & A. L. Betz.* 346, L97, 181-E8 (1989)

Reversed Far-Infrared Line Emission from OH in Orion. *A. L. Betz & R. T. Boreiko.* 346, L101, 181-E12 (1989)

Ionized Carbon in Side-illuminated Molecular Clouds. *R. T. Boreiko, A. L. Betz, & J. Zmuidzinas.* 353, 181, 64-D1 (1990)

BORGANI, STEFANO. Biased Theories of Galaxy Formation with Arbitrary Threshold Functions and Background Distribution. *Stefano Borgani & Silvio A. Bonometto.* 348, 398, 7-E3 (1990)

Statistics of Matter Distribution from Halo Dynamics. *Silvio A. Bonometto, Stefano Borgani, Massimo Persic, & Paolo Salucci.* 356, 350, 104-E12 (1990)

BORGEEST, U. Determination of Galaxy Masses by the Gravitational Lens Effect. *U. Borgeest.* 309, 467, 126-C13 (1986)

BORGHESI, A. Amorphous Carbon and the Unidentified Infrared Bands. *A. Borghesi, E. Bussoletti, & L. Colangeli.* 314, 422, 32-G2 (1987)

BORIAKOFF, V. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

BORIS, JAY P. Response of an Emerging Flux Tube to a Current-driven Instability. *Judith T. Karpen & Jay P. Boris.* 307, 826, 106-A7 (1986)

BORKOWSKI, KAZIMIERZ J. Two-Temperature Radiative Shocks with Electron Thermal Conduction. *Kazimierz J. Borkowski, J. Michael Shull, & Christopher F. McKee.* 336, 979, 14-F1 (1989)

Pure-Oxygen Radiative Shocks with Electron Thermal Conduction. *Kazimierz J. Borkowski & J. Michael Shull.* 348, 169, 3-B5 (1990)

Radiative Magnetized Thermal Conduction Fronts. *Kazimierz J. Borkowski, Steven A. Balbus, & Carl C. Fristrom.* 355, 501, 94-F7 (1990)

Interaction of Planetary Nebulae with the Interstellar Medium. *Kazimierz J. Borkowski, Craig L. Sarazin, & Noam Soker.* 360, 173, 147-B11 (1990)

BORNE, KIRK D. Interacting Binary Galaxies. II. Matching Models to Observations. *Kirk D. Borne.* 330, 38, 90-D5 (1988)

Interacting Binary Galaxies. III. Observations of NGC 1587/1588 and NGC 7236/7237. *Kirk D. Borne & John G. Hoessel.* 330, 51, 90-E4 (1988)

Interacting Binary Galaxies. IV. Simulations, Masses, and Spatial Orientations for NGC 1587/1588 and NGC 7236/7237. *Kirk D. Borne.* 330, 61, 90-F4 (1988)

Interacting Binary Galaxies. V. NGC 4782/4783 (3C 278): Unbound Colliders, Not a Supermassive Pair. *Kirk D. Borne, Marc Balcells, & John G. Hoessel.* 333, 567, 146-C1 (1988)

Interacting Binary Galaxies. VI. The Fast Encounter of NGC 2672 and NGC 2673 (Karachentsev 175, Arp 167). *Marc Balcells, Kirk D. Borne, & John G. Hoessel.* 336, 655, 10-E10 (1989)

BORNMANN, P. L. Turbulence as a Contributor to Intermediate Energy Storage during Solar Flares. *P. L. Bornmann.* 313, 449, 19-G13 (1987)

Two-Component Analysis of the Decay of Soft X-Ray Line Emission during Solar Flares. *P. L. Bornmann & K. T. Strong.* 333, 1014, 151-E1 (1988)

Limits to Derived Flare Properties Using Estimates for the Background Fluxes: Examples from *GOES*. *P. L. Bornmann.* 356, 733, 109-C11 (1990)

BOROSON, T. A. The Absorption-Line Spectrum of GC 1556+335: Ejected or Intervening Material? *Simon L. Morris, Ray J. Weymann, Craig B. Foltz, D. A. Turnshek, S. Shectman, C. Price, & T. A. Boroson.* 310, 40, 132-D12 (1986)

Faint Planetary Nebulae in the Magellanic Clouds: Central Star Properties and Nebular Abundances for the Jacoby Sample. *Richard B. C. Henry, James Liebert, & T. A. Boroson.* 339, 872, 62-E7 (1989)

BOROSON, TODD A. Internal Kinematics of Spiral Galaxies: Gas and Stellar Rotation Curves and Dispersion Profiles. *James A. Fillmore, Todd A. Boroson, & Alan Dressler.* 302, 208, 30-B12 (1986)

Spectra of Galaxies in Clusters. I. The Butcher-Oemler Effect. *Michael V. Newberry, Robert P. Kirshner, & Todd A. Boroson.* 335, 629, 179-D4 (1988)

UV Fluorescence of Molecular Hydrogen and Red Dust Emission in the Gamma Cassiopeiae Nebulae IC 63. *Adolf N. Witt, Theodore P. Stecher, Todd A. Boroson, & Ralph C. Bohlin.* 336, L21, 8-D2 (1989)

Spectrophotometry of Jacoby's Complete Sample of Planetary Nebulae in the Magellanic Clouds. *Todd A. Boroson & James Liebert.* 339, 844, 62-C1 (1989)

Observations of a Complete Sample of Emission-Line Galaxies. I. CCD Imaging and Spectroscopy of Galaxies in UM Lists IV and V. *John J. Salzer, Gordon M. MacAlpine, & Todd A. Boroson.* 70, 447, 25-B1 (1989)

Observations of a Complete Sample of Emission-Line Galaxies. II. Properties of the UM Survey Galaxies. *John J. Salzer, Gordon M. MacAlpine, & Todd A. Boroson.* 70, 479, 25-D6 (1989)

On the Relation between Fe II Emission and Soft X-Ray Properties of Quasars. *Todd A. Boroson.* 343, L9, 125-C1 (1989)

Spectra of Galaxies in Clusters. II. Models for the Spectra of Postburst and Stripped Galaxies. *Michael V. Newberry, Todd A. Boroson, & Robert P. Kirshner.* 350, 585, 33-D11 (1990)

Spectroscopy of Extended Red Emission in Reflection Nebulae. *Adolf N. Witt & Todd A. Boroson.* 355, 182, 89-B12 (1990)

New Observations of NGC 1275: Peculiar Velocities in the High-Velocity System. *Todd A. Boroson.* 360, 465, 152-B1 (1990)

BOROVIK, V. N. Structure of a Solar Active Region from RATAN 600 and Very Large Array Observations. *Sh. B. Akhmedow, V. N. Borovik, G. B. Gelfreikh, V. M. Bogod, A. N. Korzhavin, Z. E. Petrov, V. N. Dikij, Kenneth R. Lang, & Robert F. Willson.* 301, 460, 18-G9 (1986)

BOROVSKY, JOSEPH E. Parallel Electric Fields in Extragalactic Jets: Double Layers and Anomalous Resistivity in Symbiotic Relationships. *Joseph E. Borovsky.* 306, 451, 89-D4 (1986)

A Study of the Stochastic Energization of Charged Particles with and without Synchrotron Energy Loss. *Joseph E. Borovsky & Jean A. Eilek.* 308, 929, 119-B8 (1986)

The Collective Emission of Electromagnetic Waves from Astrophysical Jets: Luminosity Gaps, BL Lacertae Objects, and Efficient Energy Transport. *D. N. Baker, Joseph E. Borovsky, Gregory Benford, & Jean A. Eilek.* 326, 110, 33-C7 (1988)

BORRA, E. F. A Diffraction-limited f/2 1.5 Meter Diameter Liquid Mirror. *E. F. Borra, R. Content, M. J. Drinkwater, & S. Szapiel.* 346, L41, 173-E2 (1989)

BORUTZKI, SUSAN E. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

BORYSOW, ALEKSANDRA. Theoretical Collision-induced Rototranslational Absorption Spectra for Modeling Titan's Atmosphere: H_2–N_2 Pairs. *Aleksandra Borysow & Lothar Frommhold.* 303, 495, 46-D13 (1986)

Theoretical Collision-induced Rototranslational Absorption Spectra for the Outer Planets: H_2-CH_4 Pairs. *Aleksandra Borysow & Lothar Frommhold.* 304, 849, 65-E1 (1986)

Collision-induced Rototranslational Absorption Spectra of N_2–N_2 Pairs for Temperatures from 50 to 300 K. *Aleksandra Borysow & Lothar Frommhold.* 311, 1043, 159-C6 (1986)
Collision-induced Rototranslational Absorption Spectra of CH_4-CH_4 Pairs at Temperatures from 50 to 300 K. *Aleksandra Borysow & Lothar Frommhold.* 318, 940, 91-C2 (1987)
Collision-induced Rototranslational Absorption Spectra of N_2–N_2 Pairs for Temperatures from 50 to 300 K: Erratum. *Aleksandra Borysow & Lothar Frommhold.* 320, 437, 112-G4 (1987) (Orig. paper in 311, 1043, 159-C6 (1986))
Collision-induced Infrared Spectra of H_2-He Pairs Involving $0 \leftrightarrow 1$ Vibrational Transitions and Temperatures from 18 to 7000 K. *Aleksandra Borysow, Lothar Frommhold, & Massimo Moraldi.* 336, 495, 7-C13 (1989)
Collision-induced Infrared Spectra of H_2-He Pairs at Temperatures from 18 to 7000 K. II. Overtone and Hot Bands. *Aleksandra Borysow & Lothar Frommhold.* 341, 549, 90-E9 (1989)
A New Computation of the Infrared Absorption by H_2 Pairs in the Fundamental Band at Temperatures from 600 to 5000 K. *Aleksandra Borysow & Lothar Frommhold.* 348, L41, 6-E1 (1990)
BORYSOW, JACEK. Collision-induced Rototranslational Absorption Spectra of H_2-He Pairs at Temperatures from 40 to 3000 K. *Jacek Borysow, Lothar Frommhold, & George Birnbaum.* 326, 509, 37-G6 (1988)
BOSCALERI, A. A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)
BOSS, ALAN P. Dynamic Fission Instabilities in Rapidly Rotating $n = 3/2$ Polytropes: A Comparison of Results from Finite-Difference and Smoothed Particle Hydrodynamics Codes. *Richard H. Durisen, Robert A. Gingold, Joel E. Tohline, & Alan P. Boss.* 305, 281, 70-B2 (1986)
Protostellar Formation in Rotating Interstellar Clouds. V. Nonisothermal Collapse and Fragmentation. *Alan P. Boss.* 62, 519, 38-C2 (1986)
Bipolar Flows, Molecular Gas Disks, and the Collapse and Accretion of Rotating Interstellar Clouds. *Alan P. Boss.* 316, 721, 60-A6 (1987)
Protostellar Formation in Rotating Interstellar Clouds. VI. Nonuniform Initial Conditions. *Alan P. Boss.* 319, 149, 94-F2 (1987)
Protostellar Formation in Rotating Interstellar Clouds. VII. Opacity and Fragmentation. *Alan P. Boss.* 331, 370, 110-D1 (1988)
Evolution of the Solar Nebula. I. Nonaxisymmetric Structure during Nebula Formation. *Alan P. Boss.* 345, 554, 156-A1 (1989)
Protostellar Formation in Rotating Interstellar Clouds. VIII. Inner Core Formation. *Alan P. Boss.* 346, 336, 170-C9 (1989)
Spectral and Isophotal Appearance of Three-dimensional Protostellar Models. *Alan P. Boss & Harold W. Yorke.* 353, 236, 65-A9 (1990)
BOTHUN, G. A Distance Scale from the Infrared Magnitude/ H I Velocity-Width Relation. V. Distance Moduli to 10 Galaxy Clusters, and Positive Detection of Bulk Supercluster Motion toward the Microwave Anisotropy. *M. Aaronson, G. Bothun, J. Mould, J. Huchra, R. A. Schommer, & M. E. Cornell.* 302, 536, 36-D4 (1986)
Isophotal Diameters of Cluster Spirals. *M. E. Cornell, M. Aaronson, G. Bothun, & J. Mould.* 64, 507, 24-A5 (1987)
BOTHUN, G. D. 1E 1415.6+2557: An X-Ray–Selected BL Lacertae Object in a Luminous Galaxy. *J. P. Halpern, C. D. Impey, G. D. Bothun, S. Tapia, E. D. Skillman, A. S. Wilson, & E. J. A. Meurs.* 302, 711, 38-D5 (1986)
On the Nature of QSO Host Galaxies. *Eric P. Smith, T. M. Heckman, G. D. Bothun, W. Romanishin, & B. Balick.* 306, 64, 81-G6 (1986)
Galaxy Collisions and Mergers: The Genesis of Very Powerful Radio Sources? *T. M. Heckman, Eric P. Smith, Stefi A. Baum, W. J. M. van Breugel, G. K. Miley, G. D. Illingworth, G. D. Bothun, & B. Balick.* 311, 526, 153-D2 (1986)
Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)
An Upper Limit on the H I Content of the Carina Dwarf Spheroidal Galaxy. *J. R. Mould, G. D. Bothun, P. J. Hall, L. Staveley-Smith, & A. E. Wright.* 362, L55, 181-C7 (1990)
BOTHUN, GREG. Virgo Dwarfs: New Light on Faint Galaxies. *Chris Impey, Greg Bothun, & David Malin.* 330, 634, 99-D6 (1988)
Malin 1: A Quiescent Disk Galaxy. *Chris Impey & Greg Bothun.* 341, 89, 85-B1 (1989)
Nonlinearity of the Tully-Fisher Relation. *Jeremy Mould, Mingsheng Han, & Greg Bothun.* 347, 112, 182-E1 (1989)
BOTHUN, GREGORY. An Optical Counterpart to the H I Cloud in the Local Supercluster. *Chris Impey, Gregory Bothun, David Malin, & Lister Staveley-Smith.* 351, L33, 49-C1 (1990)
BOTHUN, GREGORY D. Blue Disk Galaxies in the Coma Cluster: Analogs to $z = 0.5$ Cluster Members? *Gregory D. Bothun & Alan Dressler.* 301, 57, 14-E9 (1986)
A Redshift Survey of Low Surface Brightness Galaxies. II. Do They Fill the Voids? *Gregory D. Bothun, Timothy C. Beers, Jeremy R. Mould, & John P. Huchra.* 308, 510, 114-D12 (1986)
Sources of Error in the Tully-Fisher Relation: Reducing the Scatter with CCD *i*-Band Surface Photometry of Spiral Galaxies. *Gregory D. Bothun & Jeremy R. Mould.* 313, 629, 23-F1 (1987)
Medium-Resolution Spectroscopy of Nucleated Dwarf Elliptical Galaxies. *Gregory D. Bothun & Jeremy R. Mould.* 324, 123, 2-D6 (1988)
Bound Populations around cD Galaxies. *Gregory D. Bothun & James M. Schombert.* 335, 617, 179-C6 (1988)
IRAS Observations of Optically Selected Galaxies. I. The Properties of the UGC Redshift Example. *Gregory D. Bothun, Carol J. Lonsdale, & Walter Rice.* 341, 129, 85-E5 (1989)
The Wasilewski Sample of Emission-Line Galaxies: Follow-up CCD Imaging and Spectroscopic and *IRAS* Observations. *Gregory D. Bothun, Jules P. Halpern, Carol J. Lonsdale, Chris Impey, & Mark Schmitz.* 70, 271, 22-C7 (1989)
A Reanalysis of Substructure in Clusters of Galaxies and Their Surroundings. *Michael J. West & Gregory D. Bothun.* 350, 36, 25-D11 (1990)
The Mean Ages of S0 Disks: Evidence for Star Formation 5 Gigayears Ago. *Gregory D. Bothun & Michael D. Gregg.* 350, 73, 25-G7 (1990)
Peculiar Velocities in Large-Scale Structure: The Problem of Incomplete Sampling. *Gregory D. Bothun, Michael J. West, Jeremy R. Mould, & R. A. Schommer.* 353, 344, 68-D3 (1990)
Discovery of a Second Giant Low Surface Brightness Galaxy: Further Confirmation of Slowly Evolving Disk Galaxies. *Gregory D. Bothun, James M. Schombert, Christopher D. Impey, & Stephen E. Schneider.* 360, 427, 151-F1 (1990)
More Bound Populations around cD Galaxies. *Gregory D. Bothun & James M. Schombert.* 360, 436, 151-F11 (1990)
BOTTINELLI, L. The Malmquist Bias in the Extragalactic Distance Scale: Controversies and Misconceptions. *L. Bottinelli, L. Gouguenheim, G. Paturel, & P. Teerikorpi.* 328, 4, 62-A10 (1988)
The Extragalactic Distance Scale. II. The Unbiased Distance to the Virgo Cluster from the *B*-Band Tully-Fisher Relation. *P. Fouqué, L. Bottinelli, L. Gouguenheim, & G. Paturel.* 349, 1, 14-A10 (1990)
BOUCHER, PATRICK. Hydrostatic Confinement of Radio Jets. *Kayll Lake & Patrick Boucher.* 314, 507, 35-B2 (1987)
BOUCHET, F. R. Voids in the Center for Astrophysics Catalog. *F. R. Bouchet & M. Lachièze-Rey.* 302, L37, 40-D1 (1986)
On the Closure of the Hierarchy of Galaxy Correlation Function in Phase Space. *D. Hansel, F. R. Bouchet, R. Pellat, & A. Ramani.* 310, 23, 132-C5 (1986)
Collisionless Formation of Filaments in an Expanding Universe. *J.-M. Alimi, F. R. Bouchet, R. Pellat, J.-F. Sygnet, & F. Moutarde.* 354, 3, 74-B4 (1990)
BOUCHET, FRANÇOIS R. Cosmological Simulations Using the Hierarchical Tree Method. *François R. Bouchet & Lars Hernquist.* 68, 521, 31-B1 (1988)
Topology of Microwave Background Fluctuations: Theory. *J. Richard Gott III, Changbom Park, Roman Juszkiewicz, William E. Bies, David P. Bennett, François R. Bouchet, & Albert Stebbins.* 352, 1, 50-A11 (1990)

Galaxy Formation from Kinky Cosmic Strings. *François R. Bouchet & David P. Bennett.* 354, L41, 86-B5 (1990)

BOUCHET, P. Multifrequency Observations of the Blazar PKS 0537−441 in a Moderately Active State. *E. G. Tanzi, P. Barr, P. Bouchet, L. Chiappetti, S. Christiani, R. Falomo, P. Giommi, L. Maraschi, & A. Treves.* 311, L13, 152-B7 (1986)

The X-Ray to Infrared Energy Distribution of the Quasar PG 0026+129. *A. Treves, P. Bouchet, L. Chiappetti, A. Ciapi, R. Falomo, L. Maraschi, & E. G. Tanzi.* 330, 178, 92-A3 (1988)

Quasi-simultaneous Ultraviolet Optical and Infrared Observations of the BL Lacertae Object PKS 0048−09. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 335, 122, 171-F1 (1988)

The Ultraviolet-Optical-Infrared Energy Distribution of LMC X-3: Observation of an Accretion Disk around a Black Hole. *A. Treves, T. Belloni, P. Bouchet, L. Chiappetti, R. Falomo, L. Maraschi, & E. G. Tanzi.* 335, 142, 172-A1 (1988)

The Ultraviolet to Infrared Energy Distribution of the BL Lacertae Object PKS 0422+00 at Two Different Brightness Levels. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 345, 148, 150-G9 (1989)

BOUCHET, PATRICE. Structure of Scintillations in Neptune's Occultation Shadow. *W. B. Hubbard, Emmanuel Lellouch, Bruno Sicardy, André Brahic, Faith Vilas, Patrice Bouchet, Robert A. McLaren, & C. Perrier.* 325, 490, 24-E6 (1988)

BOUGHN, S. P. A Search for Extragalactic Background Light Using the Dark Cloud L134. *S. P. Boughn & J. R. Kuhn.* 309, 33, 120-C11 (1986)

Observational Limits on a Millihertz Stochastic Background of Gravitational Radiation. *S. P. Boughn, S. J. VanHook, & C. M. O'Neill.* 354, 406, 81-D9 (1990)

BOUGHN, STEPHEN P. The Smoothness of the 2.2 Micron Background: Constraints on Models of Primeval Galaxies. *Stephen P. Boughn, Peter R. Saulson, & Juan M. Uson.* 301, 17, 14-B10 (1986)

BOULANGER, F. Giant Molecular Clouds in M31. *S. N. Vogel, F. Boulanger, & R. Ball.* 321, L145, 137-D8 (1987)

Diffuse Infrared Emission from the Galaxy. I. Solar Neighborhood. *F. Boulanger & M. Perault.* 330, 964, 103-B2 (1988)

Small Grains and *IRAS* Colors. *F. Boulanger, C. Beichman, F. X. Désert, G. Helou, M. Pérault, & C. Ryter.* 332, 328, 126-F10 (1988)

An All-Sky Search for Molecular Cirrus Clouds. *F. X. Désert, D. Bazell, & F. Boulanger.* 334, 815, 165-D4 (1988)

The Infrared Structure of M33. *W. Rice, F. Boulanger, F. Viallefond, B. T. Soifer, & W. L. Freedman.* 358, 418, 128-G1 (1990)

Variations in the Abundance of Transiently Heated Particles within Nearby Molecular Clouds. *F. Boulanger, E. Falgarone, J. L. Puget, & G. Helou.* 364, 136, 195-F5 (1990)

BOULARES, A. Application of Cosmic-Ray Shock Theories to the Cygnus Loop: An Alternative Model. *A. Boulares & Donald P. Cox.* 333, 198, 140-C1 (1988)

BOULARES, AHMED. The Nature of the Cosmic-Ray Electron Spectrum, and Supernova Remnant Contributions. *Ahmed Boulares.* 342, 807, 112-D6 (1989)

Galactic Hydrostatic Equilibrium with Magnetic Tension and Cosmic-Ray Diffusion. *Ahmed Boulares & Donald P. Cox.* 365, 544, 215-A8 (1990)

BOUQUET, ALAIN. Dark Matter and the Suppression of Stellar Core Convection. *Alain Bouquet & Pierre Salati.* 346, 284, 169-F1 (1989)

Dark Matter and Thermal Pulses in Horizontal-Branch Stars. *David Dearborn, Georg Raffelt, Pierre Salati, Joseph Silk, & Alain Bouquet.* 354, 568, 83-D3 (1990)

BOURGERET, J.-L. Radio Evidence for a Magnetic Mirror Effect on Beams of Subrelativistic Electrons in the Solar Corona. *C. Caroubalos, M. Poquérusse, J.-L. Bourgeret, & R. Crépel.* 319, 503, 98-F7 (1987)

BOUVIER, JEROME. Accretion Disks around T Tauri Stars. *Claude Bertout, Gibor Basri, & Jerome Bouvier.* 330, 350, 94-B1 (1988)

BOWEN, DAVID. Intermediate-Redshift Galaxy Halos: Results from QSO Absorption Lines. *Kenneth M. Lanzetta & David Bowen.* 357, 321, 116-E7 (1990)

BOWEN, G. H. The Effects of Pulsation-extended Atmospheres on the Apparent Diameters of Mira Variables. *T. E. Beach, L. A. Willson, & G. H. Bowen.* 329, 241, 77-F6 (1988)

Dynamical Modeling of Long-Period Variable Star Atmospheres. *G. H. Bowen.* 329, 299, 78-D1 (1988)

A Pulsation Phase-dependent Dust Shell Model of OH 26.5+0.6. *Kyung-Won Suh, Terry Jay Jones, & G. H. Bowen.* 358, 588, 130-G3 (1990)

BOWER, C. R. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

BOWER, G. The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

BOWER, GARY. Constraints on the Mass Distribution near the Centers of M31 and M32. *Douglas Richstone, Gary Bower, & Alan Dressler.* 353, 118, 63-E5 (1990)

BOWERS, MICHAEL T. A Reanalysis of the HCO^+/HOC^+ Abundance Ratio in Dense Interstellar Clouds. *Martin F. Jarrold, Michael T. Bowers, D. J. DeFrees, A. D. McLean, & Eric Herbst.* 303, 392, 45-D6 (1986)

BOWERS, P. F. Detection of H I Emission from the Circumstellar Envelope of Alpha Orionis. *P. F. Bowers & G. R. Knapp.* 315, 305, 43-C4 (1987)

H_2O Masers in Circumstellar Envelopes. *Adair P. Lane, K. J. Johnston, P. F. Bowers, J. H. Spencer, & P. J. Diamond.* 323, 756, 163-A8 (1987)

Envelope Structure of the Mira Variable U Orionis. *P. F. Bowers & K. J. Johnston.* 330, 339, 94-A2 (1988)

Small-Scale Structure in the Interstellar Medium. I. Discovery of Very Small Molecular Clouds toward α Orionis. *G. R. Knapp & P. F. Bowers.* 331, 974, 119-F4 (1988)

Detection of H I Emission in the Circumstellar Envelope of Omicron Ceti (Mira). *P. F. Bowers & G. R. Knapp.* 332, 299, 126-D7 (1988)

Envelope Structures and Optical/Radio Positions of Cool Stars. *P. F. Bowers, K. J. Johnston, & C. de Vegt.* 340, 479, 73-C1 (1989)

A Study of OH/IR Stars and Planetary Nebula Formation. *P. F. Bowers & G. R. Knapp.* 347, 325, 186-B1 (1989)

Sensitive VLA Observations of OH 127.8−0.0 and OH 26.5+0.6. *P. F. Bowers & K. J. Johnston.* 354, 676, 84-F5 (1990)

BOWERS, R. L. Dynamic Mass Exchange in Doubly Degenerate Binaries. I. 0.9 and 1.2 $M_\odot$ Stars. *W. Benz, R. L. Bowers, A. G. W. Cameron, & W. H. Press.* 348, 647, 10-F5 (1990)

BOWYER, STUART. Far-Ultraviolet and Optical Spectrophotometry of X-Ray Selected Seyfert Galaxies. *John T. Clarke, Stuart Bowyer, & Michael Grewing.* 305, 167, 68-F12 (1986)

Time-resolved Spectrophotometry of the AM Herculis System E2003+225. *Patrick McCarthy, Stuart Bowyer, & John T. Clarke.* 311, 873, 157-C12 (1986)

Simultaneous Multifrequency Observations of Markarian 421. *Jean Brodie, Stuart Bowyer, & Allyn Tennant.* 318, 175, 80-G5 (1987)

Evidence for an Extragalactic Component of the Far-Ultraviolet Background and Constraints on Galaxy Evolution for $0.1 < z < 0.6$. *Christopher Martin & Stuart Bowyer.* 338, 677, 42-C10 (1989)

Discovery of High-Ionization Far-Ultraviolet Line Emission from the Interstellar Medium. *Christopher Martin & Stuart Bowyer.* 350, 242, 28-A7 (1990)

Possible Detection of an Emission Feature near 584 Å in the Direction of G191-B2B. *James Green, Stuart Bowyer, & Patrick Jelinsky.* 353, 612, 71-E1 (1990)

Discovery of Molecular Hydrogen Fluorescence in the Diffuse Interstellar Medium. *Christopher Martin, Mark Hurwitz, & Stuart Bowyer.* 354, 220, 76-F3 (1990)

A Redshift Survey toward a Proposed Void of Galaxies Suggested by the Distribution of Abell Clusters. *Jeffrey A. Willick, Jean P. Brodie, & Stuart Bowyer.* 355, 393, 93-C8 (1990)

The Temperature Scale of Hot DA White Dwarfs: Temperatures from Far-Ultraviolet Continuum Fluxes. *David S. Finley, Gibor Basri, & Stuart Bowyer.* 359, 483, 142-A10 (1990)

The Extreme Ultraviolet Spectrum of G191-B2B and the Ionization of the Local Interstellar Medium. *James Green, Patrick Jelinsky, & Stuart Bowyer.* 359, 499, 142-C1 (1990)

BOYD, L. J. Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)

BOYD, LOUIS J. Photometric Variability in Chromospherically Active Stars. III. The Binary Stars. *Klaus G. Strassmeier, Douglas S. Hall, Louis J. Boyd, & Russell M. Genet.* 69, 141, 2-G3 (1989)

BOYD, R. N. Photoerosion of Nuclei in Quasar Emission-Line Regions. *R. N. Boyd & G. J. Ferland.* 318, L21, 85-B8 (1987)

The Possible Consequences of Strange Quark Matter on Hydrogen Burning in the Sun. *K. Takahashi & R. N. Boyd.* 327, 1009, 60-A1 (1988)

Can ^{9}Be Provide a Test of Cosmological Theories? *R. N. Boyd & T. Kajino.* 336, L55, 16-E10 (1989)

Production of the Light Elements in Primordial Nucleosynthesis. *T. Kajino & R. N. Boyd.* 359, 267, 139-D1 (1990)

BOYD, RICHARD N. Photoerosion and the Abundances of the Light Elements. *Richard N. Boyd, Gary J. Ferland, & David N. Schramm.* 336, L1, 8-B10 (1989)

BOYDEN, J. E. Solar Irradiance Variations Derived from Magnetograms. *G. A. Chapman & J. E. Boyden.* 302, L71, 40-F6 (1986)

BOYLE, R. P. The Initial Mass Function in the Rho Ophiuchi Cluster. *G. H. Rieke, N. M. Ashok, & R. P. Boyle.* 339, L71, 66-D1 (1989)

BOYLE, ROBERT J. Solar Magnetic Field Studies Using the 12 Micron Emission Lines. I. Quiet-Sun Time Series and Sunspot Slices. *Drake Deming, Robert J. Boyle, Donald E. Jennings, & Gunter Wiedemann.* 333, 978, 151-B1 (1988)

Solar Magnetic Field Studies Using the 12 Micron Emission Lines. I. Quiet-Sun Time Series and Sunspot Slices: Erratum. *Drake Deming, Robert J. Boyle, Donald E. Jennings, & Gunter Wiedemann.* 338, 1193, 48-C12 (1989) (Orig. paper in 333, 978, 151-B1 (1988))

BOYNTON, P. E. Vela X-1 Pulse Timing. I. Determination of the Neutron Star Orbit. *P. E. Boynton, J. E. Deeter, F. K. Lamb, & G. Zylstra.* 307, 545, 103-A1 (1986)

Apsidal Advance in Vela X-1. *J. E. Deeter, P. E. Boynton, F. K. Lamb, & G. Zylstra.* 314, 634, 36-E1 (1987)

Vela X-1 Pulse Timing. II. Variations in Pulse Frequency. *J. E. Deeter, P. E. Boynton, F. K. Lamb, & G. Zylstra.* 336, 376, 5-G7 (1989)

BOYNTON, PAUL E. A Search for the Sunyaev-Zel'dovich Effect at λ = 3 Millimeters. *Simon J. E. Radford, Paul E. Boynton, Bobby L. Ulich, R. Bruce Partridge, Robert A. Schommer, Antony A. Stark, Robert W. Wilson, & Stephen S. Murray.* 300, 159, 2-F13 (1986)

BRADLEY, P. A. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

BRADLEY, STEVEN E. The Formation of Disk Galaxies at High Redshift: Observations of Damped Lyman-Alpha Absorption in High-Redshift QSOs. *Harding E. Smith, Ross D. Cohen, & Steven E. Bradley.* 310, 583, 140-B9 (1986)

Emission-Line Variability and the Broad-Line Region of Quasistellar Objects. I. Time Scales and Photon Densities. *Wei Zheng, E. Margaret Burbidge, Harding E. Smith, Ross D. Cohen, & Steven E. Bradley.* 322, 164, 139-F5 (1987)

BRADSTREET, DAVID H. V677 Centauri: Overcontact and Completely Eclipsing but A-Type or W-Type? *Pamela M. Kilmartin, David H. Bradstreet, & Robert H. Koch.* 319, 334, 96-E12 (1987)

BRADT, H. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

BRADT, H. V. The Discovery of Eight Bright Active Galactic Nuclei Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, H. V. Bradt, D. A. H. Buckley, W. Roberts, D. A. Schwartz, I. R. Tuohy, & K. Wood.* 301, 742, 23-F5 (1986)

H0538+608: A Bright AM Herculis–Type X-Ray Source. *R. A. Remillard, H. V. Bradt, J. E. McClintock, J. Patterson, W. Roberts, D. A. Schwartz, & S. Tapia.* 302, L11, 35-A13 (1986)

Simultaneous X-Ray and Optical Observations of GX 339–4 in an X-Ray High State. *K. Makishima, Y. Maejima, K. Mitsuda, H. V. Bradt, R. A. Remillard, I. R. Tuohy, R. Hoshi, & M. Nakagawa.* 308, 635, 116-A1 (1986)

Identification of Two Southern X-Ray Emitting Cataclysmic Variables. *I. R. Tuohy, D. A. H. Buckley, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 311, 275, 149-A12 (1986)

Discovery of Three New RS Canum Venaticorum–like Counterparts to *HEAO 1* X-Ray Sources. *D. A. H. Buckley, I. R. Tuohy, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 315, 273, 42-G14 (1987)

1H 0709–360: A Cataclysmic Variable with an Orbital Period inside the "Period Gap." *I. R. Tuohy, R. A. Remillard, R. J. V. Brissenden, & H. V. Bradt.* 359, 204, 136-E9 (1990)

BRAGAGLIA, ANGELA. Double Degenerates among DA White Dwarfs. *Angela Bragaglia, Laura Greggio, Alvio Renzini, & Sandro D'Odorico.* 365, L13, 212-B7 (1990)

BRAGE, T. Ultraviolet Doubly Excited Fe II Lines in the Laboratory and in the A-Type Star 21 Pegasi. *J. Adam, B. Baschek, S. Johansson, A. E. Nilsson, & T. Brage.* 312, 337, 4-E6 (1987)

BRAHIC, ANDRÉ. Structure of Scintillations in Neptune's Occultation Shadow. *W. B. Hubbard, Emmanuel Lellouch, Bruno Sicardy, André Brahic, Faith Vilas, Patrice Bouchet, Robert A. McLaren, & C. Perrier.* 325, 490, 24-E6 (1988)

BRAINERD, J. Effect of an Electron Scattering Cloud on X-Ray Oscillations Produced by Beaming. *J. Brainerd & F. K. Lamb.* 317, L33, 71-C6 (1987)

BRAINERD, J. J. Synchrotron Emission and Gamma-Ray Bursts. *J. J. Brainerd & D. Q. Lamb.* 313, 231, 17-D14 (1987)

Analytic and Numerical Calculations of Quantum Synchrotron Spectra from Relativistic Electron Distributions. *J. J. Brainerd & V. Petrosian.* 320, 703, 117-D11 (1987)

Quantum Synchrotron Spectra from Semirelativistic Electrons in Teragauss Magnetic Fields. *J. J. Brainerd.* 320, 714, 117-E8 (1987)

Single Photon Pair Production in Gamma-Ray Bursts. *J. J. Brainerd.* 338, 281, 36-D6 (1989)

Resonant Compton Scattering and X-Ray Suppression in Gamma-Ray Bursts. *J. J. Brainerd.* 341, L67, 99-G10 (1989)

Cyclotron Emission from AM Herculis Binaries: A Variable Magnetic Field, Variable Temperature Model. *J. J. Brainerd.* 345, 978, 162-F4 (1989)

BRANCH, DAVID. On the Relative Frequencies of the Kinds of Type I Supernovae. *David Branch.* 300, L51, 13-D2 (1986)

On the Ultraviolet Spectra of Type I Supernovae. *David Branch & K. L. Venkatatkrishna.* 306, L21, 86-B8 (1986)

High-Velocity Matter in a Classical Type I Supernova: The Demise of Type Ia Homogeneity. *David Branch.* 316, L81, 62-C11 (1987)

Blackbody Emissivity of Supernova 1987A and the Extragalactic Distance Scale. *David Branch.* 320, L23, 114-C1 (1987)

Supernova 1987A: LTE Line Strengths as a Guide to Line Identifications. *David Branch.* 320, L121, 121-D8 (1987)

Radio and Optical Studies of Supernova 1961V in NGC 1058. *John J. Cowan, Richard B. C. Henry, & David Branch.* 329, 116, 76-C1 (1988)

Differences among Expansion Velocities of Type Ia Supernovae. *David Branch, Wendy Drucker, & David J. Jeffery.* 330, L117, 105-A1 (1988)

Absolute Light Curves of Type II Supernovae. *Timothy R. Young & David Branch.* 342, L79, 117-D9 (1989)

BRAND, JAN. Kinematics of Molecular Clouds. II. New Data on Nearby Giant Molecular Clouds. *Antony A. Stark & Jan Brand.* 339, 763, 61-C2 (1989)

BRAND, P. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

BRAND, P. W. J. L. Ratios of Molecular Hydrogen Line Intensities in Shocked Gas: Evidence for Cooling Zones. *P. W. J. L. Brand, A. Moorhouse, M. G. Burton, T. R. Geballe, M. Bird, & R. Wade.* 334, L103, 169-F1 (1988)

Spatial Variations of the 3 Micron Emission Features within UV-excited Nebulae: Photochemical Evolution of Interstellar Polycyclic Aromatic Hydrocarbons. *T. R. Geballe, A. G. G. M. Tielens, L. J. Allamandola, A. Moorhouse, & P. W. J. L. Brand.* 341, 278, 87-C13 (1989)

Detection of H53α Emission from M82: A Reliable Measure of the Ionization Rate and Its Implications. *P. J. Puxley, P. W. J. L. Brand, T. J. T. Moore, C. M. Mountain, N. Nakai, & T. Yamashita.* 345, 163, 151-B1 (1989)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

High Spectral Resolution Observations of Fluorescent Molecular Hydrogen in Molecular Clouds. *Michael G. Burton, T. R. Geballe, P. W. J. L. Brand, & A. Moorhouse.* 352, 625, 58-G1 (1990)

BRAND, PETER. Fluorescent Molecular Hydrogen Emission from the Reflection Nebula NGC 2023. *Ian Gatley, Tetsuo Hasegawa, Hiroko Suzuki, Ron Garden, Peter Brand, John Lightfoot, William Glencross, Haruyuki Okuda, & Tetsuya Nagata.* 318, L73, 92-D4 (1987)

BRAND, PETER W. J. L. Level Population and Para/Ortho Ratio of Fluorescent H_2 in NGC 2023. *Tetsuo Hasegawa, Ian Gatley, Ron P. Garden, Peter W. J. L. Brand, Masatoshi Ohishi, Masahiko Hayashi, & Norio Kaifu.* 318, L77, 92-D12 (1987)

Infrared Spectroscopy of Interstellar Molecular Hydrogen: Decomposition of Thermal and Fluorescent Components. *Masuo Tanaka, Tetsuo Hasegawa, Saeko S. Hayashi, Peter W. J. L. Brand, & Ian Gatley.* 336, 207, 3-F3 (1989)

Infrared Images of Ionized and Molecular Hydrogen Emission in S106. *Saeko S. Hayashi, Tetsuo Hasegawa, Masuo Tanaka, Masahiko Hayashi, Colin Aspin, Ian S. McLean, Peter W. J. L. Brand, & Ian Gatley.* 354, 242, 77-B2 (1990)

BRANDENBERGER, ROBERT. Cosmic String Wakes. *Albert Stebbins, Shoba Veeraraghavan, Robert Brandenberger, Joseph Silk, & Neil Turok.* 322, 1, 138-A7 (1987)

BRANDI, ESTELA. An Interpretation of the Line Profile Variations in the *IUE* Spectrum of the Wolf-Rayet Binary γ_2 Velorum. *Estela Brandi, Osvaldo E. Ferrer, & Jorge Sahade.* 340, 1091, 81-G6 (1989)

An Interpretation of the Line Profile Variations in the *IUE* Spectrum of the Wolf-Rayet Binary γ_2 Velorum: Erratum. *Estela Brandi, Osvaldo Ferrer, & Jorge Sahade.* 347, 561, 188-G12 (1989) (Orig. paper in 340, 1091, 81-G6 (1989))

BRANDUARDI-RAYMONT, G. *EXOSAT* Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)

BRATTON, C. B. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

BRAULT, J. Monodeuterated Methane in the Outer Solar System. II. Its Detection on Uranus at 1.6 Microns. *C. de Bergh, B. L. Lutz, T. Owen, J. Brault, & J. Chauville.* 311, 501, 151-D14 (1986)

BRAULT, JAMES W. Fourier Transform Spectrometer Observations of Solar Carbon Monoxide. II. Simultaneous Cospatial Measurements of the Fundamental and First-Overtone Bands, and Ca II K, in Quiet and Active Regions. *Thomas R. Ayres, Larry Testerman, & James W. Brault.* 304, 542, 59-G5 (1986)

On the Apparent Velocity of Integrated Sunlight. I. 1983–1985. *Drake Deming, Fred Espenak, Donald E. Jennings, James W. Brault, & Jeremy Wagner.* 316, 771, 60-E4 (1987)

Fourier Transform Spectrometer Observations of Solar Carbon Monoxide. III. Time-resolved Spectroscopy of the $\Delta v = 1$ Bands. *Thomas R. Ayres & James W. Brault.* 363, 705, 192-G5 (1990)

BRAUN, D. A Solar Chromosphere and Spicule Model Based on Far-Infrared Limb Observations. *D. Braun & C. Lindsey.* 320, 898, 119-E11 (1987)

Far-Infrared Intensity Variations Caused by 5 Minute Oscillations. *C. Lindsey, G. Kopp, E. E. Becklin, T. Roellig, M. W. Werner, J. T. Jefferies, F. Q. Orrall, D. Braun, & D. L. Mickey.* 350, 475, 30-G1 (1990)

BRAUN, D. C. Acoustic Absorption by Sunspots. *D. C. Braun, T. L. Duvall, Jr., & B. J. LaBonte.* 319, L27, 100-C9 (1987)

The Absorption of High-Degree p-Mode Oscillations in and around Sunspots. *D. C. Braun, T. L. Duvall, Jr., & B. J. LaBonte.* 335, 1015, 184-A1 (1988)

The Spatial Distribution of p-Mode Absorption in Active Regions. *D. C. Braun, B. J. LaBonte, & T. L. Duvall, Jr.* 354, 372, 78-F3 (1990)

BRAUN, EREZ. Biased Galaxy Formation in the Neutrino Scenario. *Erez Braun, Avishai Dekel, & Paul R. Shapiro.* 328, 34, 62-D1 (1988)

The Rotation Curve of DDO 154: A Particularly Acute Test of the Modified Dynamics. *Mordehai Milgrom & Erez Braun.* 334, 130, 155-F1 (1988)

Light Reprocessing in the Echo Model of Luminous Arcs. *Erez Braun & Mordehai Milgrom.* 337, 644, 27-A9 (1989)

A Non–Steady State Line Locking in Broad Absorption Line Quasi-stellar Objects. *Erez Braun & Mordehai Milgrom.* 342, 100, 102-C1 (1989)

Radiation Pressure in Intergalactic Clouds. *Erez Braun & Avishai Dekel.* 345, 31, 149-D3 (1989)

A Variable Flow as the Underpinning of Broad Absorption Lines in Quasi-stellar Objects. *Erez Braun & Mordehai Milgrom.* 349, L35, 24-A10 (1990)

BRAUN, ROBERT. Three Fields Containing Young Pulsars: The Observable Lifetime of Supernova Remnants. *Robert Braun, W. Miller Goss, & Andrew G. Lyne.* 340, 355, 71-D11 (1989)

The Interstellar Medium of M31. I. A Survey of Neutral Hydrogen Emission. *Robert Braun.* 72, 755, 13-G1 (1990)

The Interstellar Medium of M31. II. A Survey of 20 Centimeter Continuum Emission. *Robert Braun.* 72, 761, 15-D7 (1990)

BRAVO, S. A Discussion about the Geometry of the *Skylab* North Polar Coronal Hole. *S. Bravo & B. Mendoza.* 338, 1171, 48-B1 (1989)

BRAY, R. J. High-Resolution Photography of the Solar Chromosphere. XXIII. Direct Measurement of the Optical Thickness of Hα Solar Loops. *R. J. Bray & R. E. Loughhead.* 301, 989, 26-E4 (1986)

BRAZIER, K. T. S. New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carraminana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

BRECHER, KENNETH. Electron-Positron Pair Production by Ultrarelativistic Electrons in a Soft Photon Field. *Apostolos Mastichiadis, Alan P. Marscher, & Kenneth Brecher.* 300, 178, 3-A4 (1986)

Electromagnetic Cascades in the Magnetosphere of a Very Young Pulsar: A Model for the Positron Production near the Galactic Center. *Apostolos Mastichiadis, Kenneth Brecher, & Alan P. Marscher.* 314, 88, 29-A5 (1987)

BRECHT, STEPHEN H. Acceleration, Storage, and Release of Solar Flare Protons. *Dean F. Smith & Stephen H. Brecht.* 306, 317, 84-G4 (1986)

Acceleration, Storage, and Release of Solar Flare Protons: Erratum. *Dean F. Smith & Stephen H. Brecht.* 309, 892, 131-A10 (1986) (Orig. paper in 306, 317, 84-G4 (1986))

Minimum Mach Number for Impulsive Proton Acceleration by Parallel Collisionless Shock Waves in Solar Flares. *Dean F. Smith & Stephen H. Brecht.* 337, 954, 30-F1 (1989)

Nonlinear Effects in Fast Solar Flare Proton Acceleration by Magnetohydrodynamic Turbulence. *Dean F. Smith & Stephen H. Brecht.* 344, 1004, 146-D6 (1989)

BREGER, MICHEL. The Pleiades Cluster. III. Polarization, Reddening, and the Unusual Distribution of Interstellar Matter. *Michel Breger.* 309, 311, 123-C10 (1986)

The Pleiades Cluster. IV. The Visit of a Molecular CO Cloud. *Michel Breger.* 319, 754, 103-C9 (1987)

BREGMAN, J. Infrared Observations of SN 1987A from 5.3 to 12.6 Microns: Evidence for an Early Dust Echo. *D. M. Rank, J. Bregman, F. C. Witteborn, M. Cohen, D. K. Lynch, & R. W. Russell.* 325, L1, 25-A4 (1988)

BREGMAN, J. D. Aperture Synthesis Observations of the 21 Centimeter Zeeman Effect toward Cassiopeia A. *U. J. Schwarz, T. H. Troland, J. S. Albinson, J. D. Bregman, W. M. Goss, & Carl Heiles.* 301, 320, 17-D4 (1986)

Spectral Line Profiles of Nickel and Argon in Supernova 1987A: Expansion Velocity and Electron Scattering Effects. *F. C. Witteborn, J. D. Bregman, D. H. Wooden, P. A. Pinto, D. M. Rank, S. E. Woosley, & M. Cohen.* 338, L9, 40-C1 (1989)

Infrared Emission from Comets. *K. S. Krishna Swamy, S. A. Sandford, L. J. Allamandola, F. C. Witteborn, & J. D. Bregman.* 340, 537, 73-G11 (1989)

New Emission Features in the 11–13 Micron Region and Their Relationship to Polycyclic Aromatic Hydrocarbons. *F. C. Witteborn, S. A. Sandford, J. D. Bregman, L. J. Allamandola, M. Cohen, D. H. Wooden, & A. L. Graps.* 341, 270, 87-C5 (1989)

Mid-Infrared Spectra of WC 9 Stars: The Composition of Circumstellar and Interstellar Dust. *M. Cohen, A. G. G. M. Tielens, & J. D. Bregman.* 344, L13, 140-B5 (1989)

The Infrared Emission Bands. II. A Spatial and Spectral Study of the Orion Bar. *J. D. Bregman, L. J. Allamandola, A. G. G. M. Tielens, T. R. Geballe, & F. C. Witteborn.* 344, 791, 144-B1 (1989)

The Discovery of a New Infrared Emission Feature at 1905 Wavenumbers (5.25 Microns) in the Spectrum of BD +30°3639 and Its Relation to the Polycyclic Aromatic Hydrocarbon Model. *L. J. Allamandola, J. D. Bregman, S. A. Sandford, A. G. G. M. Tielens, F. C. Witteborn, D. H. Wooden, & D. Rank.* 345, L59, 157-F1 (1989)

Hydrocarbon Emission Features in the Infrared Spectra of Warm Supergiants. *R. H. Buss, Jr., M. Cohen, A. G. G. M. Tielens, M. W. Werner, J. D. Bregman, F. C. Witteborn, D. Rank, & S. A. Sandford.* 365, L23, 212-C6 (1990)

BREGMAN, J. N. The Ultraviolet Spectra of Intermediate-Redshift Quasars. II. *A. L. Kinney, P. J. Huggins, A. E. Glassgold, & J. N. Bregman.* 314, 145, 29-E7 (1987)

BREGMAN, JESSE. The Infrared Emission Bands. I. Correlation Studies and the Dependence on C/O Ratio. *Martin Cohen, Lou Allamandola, A. G. G. M. Tielens, Jesse Bregman, J. P. Simpson, Fred C. Witteborn, Diane Wooden, & Dave Rank.* 302, 737, 38-F10 (1986)

The Infrared Emission Bands. III. Southern *IRAS* Sources. *Martin Cohen, A. G. G. M. Tielens, Jesse Bregman, Fred C. Witteborn, David M. Rank, L. J. Allamandola, Dianne Wooden, & M. de Muizon.* 341, 246, 87-A7 (1989)

BREGMAN, JESSE D. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

3 Micron Spectrophotometry of Comet Halley: Evidence for Water Ice. *Jesse D. Bregman, A. G. G. M. Tielens, Fred C. Witteborn, David M. Rank, & Diane Wooden.* 334, 1044, 168-A11 (1988)

BREGMAN, JOEL N. Variability of Lyman-Alpha and the Ultraviolet Continuum of 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, & A. L. Kinney.* 301, 698, 23-C3 (1986)

Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Photoionization in the Halo of the Galaxy. *Joel N. Bregman & J. Patrick Harrington.* 309, 833, 130-D6 (1986)

Heat Conduction in Cooling Flows. *Joel N. Bregman & L. P. David.* 326, 639, 40-F2 (1988)

A Model for the Interaction between Stars and Gas in the Interstellar Medium. *Wei-Hwan Chiang & Joel N. Bregman.* 328, 427, 67-F5 (1988)

The Growth of Thermal Instabilities in Cooling Flows. *Laurence P. David, Joel N. Bregman, & C. Gregory Seab.* 329, 66, 75-F4 (1988)

H I in Giant Elliptical Galaxies with Cooling Flows. *Joel N. Bregman, Morton S. Roberts, & Riccardo Giovanelli.* 330, L93, 104-F7 (1988)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

The Effects of Magnetic Fields on the Growth of Thermal Instabilities in Cooling Flows. *Laurence P. David & Joel N. Bregman.* 337, 97, 18-C4 (1989)

Alternative Models of Cooling Flows. *Joel N. Bregman & L. P. David.* 341, 49, 84-E9 (1989)

The Radiative Signature of the Shock Acceleration Process in Active Galactic Nuclei. *Joel N. Bregman & John R. Boisseau.* 347, 118, 183-E7 (1989)

Infrared Emission from Central Dominant Galaxies in X-Ray Luminous Clusters. *Joel N. Bregman, Brian R. McNamara, & Robert W. O'Connell.* 351, 406, 45-B1 (1990)

Low-Temperature Galactic Fountains. *John C. Houck & Joel N. Bregman.* 352, 506, 57-D1 (1990)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

H I Absorption toward Cooling Flows in Clusters of Galaxies. *Brian R. McNamara, Joel N. Bregman, & Robert W. O'Connell.* 360, 20, 145-C9 (1990)

H I in the Giant Elliptical Galaxy NGC 4406. *Joel N. Bregman & Morton S. Roberts.* 362, 468, 176-C11 (1990)

BREKKE, P. Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)

BRICKHOUSE, NANCY S. O λ7774 Diagnostic for Quiescent Prominences. *Nancy S. Brickhouse & Donald A. Landman.* 313, 463, 20-A13 (1987)

BRIDLE, A. H. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

BRIDLE, ALAN. Extended Optical Line Emitting Gas in Radio Galaxies: Broad-Band Optical, Narrow-Band Optical, and Radio Imaging of a Representative Sample. *Stefi A. Baum, Timothy Heckman, Alan Bridle, Wil van Breugel, & George Miley.* 68, 643, 33-B1 (1988)

BRIEL, U. Extended X-Ray Emission in Nearby Seyfert Galaxies. *Martin Elvis, C. Fassnacht, A. S. Wilson, & U. Briel.* 361, 459, 163-G1 (1990)

BRIGGS, F. H. DDO 13: A Low Surface Brightness Galaxy with a Well-formed H I Disk and Two Tiny Companions. *F. H. Briggs.* 300, 613, 9-G4 (1986)

The Spatial Extent of the $z = 2.04$ Absorber in the Spectrum of PKS 0458–020. *F. H. Briggs, A. M. Wolfe, H. S. Liszt, M. M. Davis, & K. L. Turner.* 341, 650, 93-C5 (1989)

Rules of Behavior for Galactic Warps. *F. H. Briggs.* 352, 15, 50-C1 (1990)

BRIGGS, FRANK H. Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. III. Intermediate-Resolution Spectroscopy. *David A. Turnshek, Arthur M. Wolfe, Kenneth M. Lanzetta, Frank H. Briggs, Ross D. Cohen, Craig B. Foltz, Harding E. Smith, & Belinda J. Wilkes.* 344, 567, 141-E7 (1989)

BRIGHAM, C. A. The Identification of Meteorite Inclusions with Isotope Anomalies. *D. A. Papanastassiou & C. A. Brigham.* 338, L37, 40-E10 (1989)

BRIGHMAN, D. R. The Hydrogen Molecular Ion in an Arbitrary Homogeneous Magnetic Field. *D. R. Brighman & J. M. Wadehra.* 317, 865, 75-D14 (1987)

BRILEY, MICHAEL M. Variations in $^{12}C/^{13}C$ as an Explanation for the 3883 Å CN-Bimodality among 47 Tucanae Subgiants. *Michael M. Briley, Roger A. Bell, Graeme H. Smith, & James E. Hesser.* 341, 800, 95-B6 (1989)

An Analysis of G-Band Strengths in NGC 6397 and M55 Red Giants. *Michael M. Briley, R. A. Bell, Susan Hoban, & R. J. Dickens.* 359, 307, 139-G10 (1990)

BRINK, C. Temporal Structure of Very High Energy Gamma Radiation from PSR 1509−58. *H. I. Nel, O. C. de Jager, B. C. Raubenheimer, A. R. North, & C. Brink.* 361, 181, 159-C1 (1990)

MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

BRINKMAN, A. C. The High-Resolution Soft X-Ray Spectrum of HZ 43. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, E. H. B. M. Gronenschild, & J. Heise.* 308, 190, 110-B6 (1986)

Measurement of the EUV Spectrum of the Hot White Dwarf Feige 24. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, & J. Heise.* 309, L33, 125-E10 (1986)

The High-Resolution Photospheric Soft X-Ray Spectrum of Sirius B. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, & J. Heise.* 329, 849, 86-D1 (1988)

The High-Resolution Soft X-Ray Spectrum of HZ 43. II. Bolometric X-Ray Flux, Effective Temperature, and Radius. *J. Heise, F. B. S. Paerels, J. A. M. Bleeker, & A. C. Brinkman.* 334, 958, 167-B1 (1988)

BRISSENDEN, R. J. V. Two X-Ray–selected BL Lacertae Objects Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, I. R. Tuohy, R. J. V. Brissenden, D. A. H. Buckley, D. A. Schwartz, E. D. Feigelson, & S. Tapia.* 345, 140, 150-F11 (1989)

H1722+119: A Highly Polarized X-Ray–selected BL Lacertae Object. *R. J. V. Brissenden, R. A. Remillard, I. R. Tuohy, D. A. Schwartz, & P. L. Hertz.* 350, 578, 33-D1 (1990)

1H 0709−360: A Cataclysmic Variable with an Orbital Period inside the "Period Gap." *I. R. Tuohy, R. A. Remillard, R. J. V. Brissenden, & H. V. Bradt.* 359, 204, 136-E9 (1990)

BROCATO, E. CCD Photometry of the Large Magellanic Cloud Cluster NGC 1866: Observational Results. *E. Brocato, R. Buonanno, V. Castellani, & A. R. Walker.* 71, 25, 33-D1 (1989)

Synthetic Colors and the Chemical Evolution of Elliptical Galaxies. *E. Brocato, F. Matteucci, I. Mazzitelli, & A. Tornambè.* 349, 458, 20-G11 (1990)

The Age Calibration of Integrated Ultraviolet Colors and Young Stellar Clusters in the Large Magellanic Cloud. *J. Barbero, E. Brocato, A. Çassatella, V. Castellani, & E. H. Geyer.* 351, 98, 39-C8 (1990)

BROCATO, ENZO. Metallicity Distribution and Abundance Ratios in the Stars of the Galactic Bulge. *Francesca Matteucci & Enzo Brocato.* 365, 539, 215-A1 (1990)

BROCK, D. The Genesis of the Ring Galaxy Arp 144 (NGC 7828/29). *Marshall Joy, H. B. Ellis, Jr., E. V. Tollestrup, D. Brock, J. L. Higdon, & P. M. Harvey.* 330, L29, 96-E10 (1988)

BROCK, DAVID. Far-Infrared Observations of a Luminous Dust-shrouded Source in the Nucleus of NGC 4945. *David Brock, Marshall Joy, Daniel F. Lester, Paul M. Harvey, & H. Benton Ellis, Jr.* 329, 208, 77-C9 (1988)

Submillimeter Observations of the Sun from the James Clerk Maxwell Telescope. *Charles A. Lindsey, Selwyn Yee, Thomas L. Roellig, Richard Hills, David Brock, William Duncan, Graeme Watt, Adrian Webster, & John T. Jefferies.* 353, L53, 73-C6 (1990)

BRODERICK, J. J. Confining Hot Spots in 3C 196: Implications for QSO–Companion Galaxies. *Robert L. Brown, J. J. Broderick, & K. J. Mitchell.* 306, 107, 82-D6 (1986)

Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)

The Size of the $z = 0.437$ H I Absorption Region toward the QSO 3C 196. *R. L. Brown, J. J. Broderick, K. J. Johnston, J. M. Benson, K. J. Mitchell, & E. B. Waltman.* 329, 138, 76-E3 (1988)

BRODERICK, JOHN J. 18 Centimeter VLBI Observations of the Quasar NRAO 140 during and after a Low-Frequency Outburst. *Alan P. Marscher, John J. Broderick, Lucia Padrielli, Norbert Bartel, & Jonathan D. Romney.* 319, 456, 98-B8 (1987)

BRODIE, JEAN. Simultaneous Multifrequency Observations of Markarian 421. *Jean Brodie, Stuart Bowyer, & Allyn Tennant.* 318, 175, 80-G5 (1987)

BRODIE, JEAN P. Metallicity Determinations for Globular Clusters through Spectrophotometry of Their Intergrated Light. *Jean P. Brodie & David A. Hanes.* 300, 258, 3-G3 (1986)

The Metallicity of Globular Clusters Associated with the Giant Elliptical Galaxy NGC 4486 (M87). *David A. Hanes & Jean P. Brodie.* 300, 279, 4-B7 (1986)

A $40h^{-1}$ Mpc Diameter Void in Pisces-Cetus. *Jack O. Burns, J. Ward Moody, Jean P. Brodie, & David J. Batuski.* 335, 542, 178-D7 (1988)

A Redshift Survey toward a Proposed Void of Galaxies Suggested by the Distribution of Abell Clusters. *Jeffrey A. Willick, Jean P. Brodie, & Stuart Bowyer.* 355, 393, 93-C8 (1990)

Extragalactic Globular Clusters. I. The Metallicity Calibration. *Jean P. Brodie & John P. Huchra.* 362, 503, 177-A7 (1990)

BROMAGE, G. E. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V. Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)

BRONFMAN, L. Sandqvist 187: A Dense Molecular Cloud in Norma. *H. Alvarez, L. Bronfman, R. Cohen, G. Garay, J. Graham, & P. Thaddeus.* 300, 756, 11-D8 (1986)

A Large Molecular Cloud in Lupus far from the Galactic Plane. *L.-Å. Nyman, P. Thaddeus, L. Bronfman, & R. S. Cohen.* 314, 374, 32-C4 (1987)

Molecular Clouds in the Carina Arm: Large-Scale Properties of Molecular Gas and Comparison with H I. *D. A. Grabelsky, R. S. Cohen, L. Bronfman, P. Thaddeus, & J. May.* 315, 122, 41-D2 (1987)

A CO Survey of the Southern Milky Way: The Mean Radial Distribution of Molecular Clouds within the Solar Circle. *L. Bronfman, R. S. Cohen, H. Alvarez, J. May, & P. Thaddeus.* 324, 248, 3-G12 (1988)

Molecular Clouds in the Carina Arm: The Largest Objects, Associated Regions of Star Formation, and the Carina Arm in the Galaxy. *D. A. Grabelsky, R. S. Cohen, L. Bronfman, & P. Thaddeus.* 331, 181, 108-A10 (1988)

A Deep CO Survey of Molecular Clouds in the Southern Milky Way. *L. Bronfman, H. Alvarez, R. S. Cohen, & P. Thaddeus.* 71, 481, 42-A7 (1989)

The Rotation of the Galaxy within the Solar Circle. *H. Alvarez, J. May, & L. Bronfman.* 348, 495, 8-G1 (1990)

BROOKE, T. Y. Observations of 3.2–3.6 Micron Emission Features in Comet Halley. *R. F. Knacke, T. Y. Brooke, & R. R. Joyce.* 310, L49, 138-D7 (1986)

Spectroscopy of Emission Features near 3 Microns in Comet Wilson (1986l). *T. Y. Brooke, R. F. Knacke, T. C. Owen, & A. T. Tokunaga.* 336, 971, 14-E5 (1989)

BROOKS, JOHN J. The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)

BROSCH, N. The First UV Spectrum of Triton: *IUE* Observations from 2600 to 3200 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 341, L107, 100-D1 (1989)

The UV Spectrum of Pluto-Charon: *IUE* Observations from 2600 to 3100 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 342, 533, 107-C7 (1989)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. I. Markarian 279. *D. Maoz, H. Netzer, E. Leibowitz, N. Brosch, A. Laor, H. Mendelson, S. Beck, E. Almoznino, & T. Mazeh.* 351, 75, 39-A5 (1990)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. II. NGC 5548. *H. Netzer, D. Maoz, A. Laor, H. Mendelson, N. Brosch, E. Leibowitz, E. Almoznino, S. Beck, & T. Mazeh.* 353, 108, 63-D7 (1990)

BROSCH, NOAH. A Search for H I in Intercluster and Cosmic Void Spaces. *Noah Brosch.* 344, 597, 142-A1 (1989)

BROSIUS, J. W. Models of Transition Regions in Hybrid Stars. *J. W. Brosius & D. J. Mullan.* 301, 650, 22-F11 (1986)

BROSIUS, JEFFREY W. Theoretical Models of Free-free Microwave Emission from Solar Magnetic Loops. *Jeffrey W. Brosius & Gordon D. Holman.* 327, 417, 51-E5 (1988)

The Structure of the Microwave Emission from Sunspot Magnetic Fields. *Jeffrey W. Brosius & Gordon D. Holman.* 342, 1172, 116-E3 (1989)

BROTEN, N. W. Observations of OCS and a Search for OC_3S in the Interstellar Medium. *H. E. Matthews, J. M. MacLeod, N. W. Broten, S. C. Madden, & P. Friberg.* 315, 646, 47-F7 (1987)

BROWN, A. High-Dispersion Observations of Alpha Bootis (K1 III) with the *International Ultraviolet Explorer*. *T. R. Ayres, P. Judge, C. Jordan, A. Brown, & J. L. Linsky.* 311, 947, 158-C1 (1986)

X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, T. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

BROWN, ALEXANDER. Variable Radio Emission from the 4 Draconis System. *Alexander Brown.* 312, L51, 14-C7 (1987)

Radio Emission from Pre–Main-Sequence Stars in Corona Australis. *Alexander Brown.* 322, L31, 145-C3 (1987)

The Ultraviolet Spectrum of Noncoronal Late-Type Stars: The Gamma Crucis (M3.4 III) Reference Spectrum. *Kenneth G. Carpenter, Joseph E. Pesce, Robert E. Stencel, Alexander Brown, Sveneric Johansson, & Robert F. Wing.* 68, 345, 28-B7 (1988)

Mg II Line Profiles of the Mira S Carinae. *Jay A. Bookbinder, Edward W. Brugel, & Alexander Brown.* 342, 516, 107-B2 (1989)

New Radio Detections of Early-Type Pre–Main-Sequence Stars. *Stephen L. Skinner, Alexander Brown, & Jeffrey L. Linsky.* 357, L39, 121-C11 (1990)

Stringent Limits on the Ionized Mass Loss from A and F Dwarfs. *Alexander Brown, Anthony Vealé, Philip Judge, Jay A. Bookbinder, & Ivan Hubeny.* 361, 220, 159-F3 (1990)

BROWN, B. L. Galactic Center Positronium Fraction: Observations and Simulations. *B. L. Brown & M. Leventhal.* 319, 637, 102-A1 (1987)

BROWN, D. A. A Model for the Recurrent Flares in EXO 2030+375. *Ronald E. Taam, B. A. Fryxell, & D. A. Brown.* 331, L117, 121-G5 (1988)

BROWN, DOUGLAS N. The Evolution of the Magnetic Fields of Ap Stars: Magnetic Observations of Stars in the Scorpius-Centaurus Association. *Ian B. Thompson, Douglas N. Brown, & John D. Landstreet.* 64, 219, 19-B11 (1987)

Magnetic Field Measurements of Helium-strong Stars. *David A. Bohlender, Douglas N. Brown, J. D. Landstreet, & Ian B. Thompson.* 323, 325, 156-E8 (1987)

Colliding Stellar Winds in the Eclipsing Wolf-Rayet Binary V444 Cygni. *Steven N. Shore & Douglas N. Brown.* 334, 1021, 167-G1 (1988)

The Discovery of Magnetically Controlled Circumstellar Matter in the Helium-weak Stars HD 5737 and HD 79158. *Steven N. Shore, Douglas N. Brown, George Sonneborn, John D. Landstreet, & David A. Bohlender.* 348, 242, 4-A5 (1990)

A Multiwavelength Study of the Carlson-Henize Sample of Early-Type Galactic Extreme Emission-Line Stars. *Steven N. Shore, Douglas N. Brown, B. W. Bopp, C. R. Robinson, N. Sanduleak, & P. D. Feldman.* 73, 461, 24-F11 (1990)

Magnetically Controlled Circumstellar Matter in the Helium-strong Stars. *Steven N. Shore & Douglas N. Brown.* 365, 665, 216-E1 (1990)

BROWN, G. E. Convection in Supernova Theory. *H. A. Bethe, G. E. Brown, & J. Cooperstein.* 322, 201, 140-B3 (1987)

Electron Capture and β-Decay in Presupernova Stars. *M. B. Aufderheide, G. E. Brown, T. T. S. Kuo, D. B. Stout, & P. Vogel.* 362, 241, 172-E9 (1990)

BROWN, J. C. On Removal of the Gradual Component in Analyses of Solar Impulsive Bursts. *J. E. R. Costa, J. C. Brown, E. Correia, & P. Kaufmann.* 73, 191, 20-C11 (1990)

Beam Heating in Solar Flares: Electrons or Protons? *J. C. Brown, M. Karlicky, A. L. MacKinnon, & G. H. J. van den Oord.* 73, 343, 22-D9 (1990)

BROWN, J. M. The Microwave and Far-Infrared Spectra of the ^{18}OH Radical. *E. R. Comben, J. M. Brown, T. C. Steimle, K. R. Leopold, & K. M. Evenson.* 305, 513, 72-G9 (1986)

Laboratory Measurement of the Rotational Spectrum of the OH Radical with Tunable Far-Infrared Radiation. *J. M. Brown, L. R. Zink, D. A. Jennings, K. M. Evenson, A. Hinz, & I. G. Nolt.* 307, 410, 99-E6 (1986)

Accurate Determination of the Fine-Structure Intervals in the ^3P Ground States of ^{13}C and ^{12}C by Far-Infrared Laser Magnetic Resonances. *A. L. Cooksy, R. J. Saykally, J. M. Brown, & K. M. Evenson.* 309, 828, 130-D1 (1986)

Frequency Measurement of the $J = 1 \leftarrow 0$ Rotational Transition of HD. *K. M. Evenson, D. A. Jennings, J. M. Brown, L. R. Zink, K. R. Leopold, M. D. Vanek, & I. G. Nolt.* 330, L135, 105-B5 (1988)

BROWN, JEFFERY A. Carbon-to-Nitrogen Ratios along the Evolutionary Sequence of M67. *Jeffery A. Brown.* 317, 701, 73-F7 (1987)

On the Onset of Mass Loss in Late-Type Stars. *Moshe Elitzur, Jeffery A. Brown, & Hollis R. Johnson.* 341, L95, 100-C1 (1989)

A Search for Lithium-rich Giant Stars. *Jeffery A. Brown, Christopher Sneden, David L. Lambert, & Edward Dutchover, Jr.* 71, 293, 39-A1 (1989)

Model Atmospheres for K and M Giants. *Jeffery A. Brown, Hollis R. Johnson, David R. Alexander, Lori C. Cutright, & Christopher M. Sharp.* 71, 623, 44-E5 (1989)

BROWN, JOHN C. Analytic Limits on the Forms of Spectra Possible from Optically Thin Collisional Bremsstrahlung Source Models. *John C. Brown & A. Gordon Emslie.* 331, 554, 112-E4 (1988)

Self-similar Lagrangian Hydrodynamics of Beam-heated Solar Flare Atmospheres. *John C. Brown & A. Gordon Emslie.* 339, 1123, 65-D11 (1989)

Finite Source Depolarization Factors for Circumstellar Scattering. *John C. Brown, Vivette A. Carlaw, & Joseph P. Cassinelli.* 344, 341, 137-C3 (1989)

Stellar Occultation of Polarized Light from Circumstellar Electrons. I. Flat Envelopes Viewed Edge-on. *John C. Brown & Geoffrey K. Fox.* 347, 468, 187-G5 (1989)

BROWN, L. F. Milliarcsecond Polarization Structure of the Superluminal Quasar 3C 273. *D. H. Roberts, R. I. Kollgaard, L. F. Brown, D. C. Gabuzda, & J. F. Wardle.* 360, 408, 151-D1 (1990)

BROWN, L. M. J. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)

Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R.*

Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen. 340, 129, 68-F4 (1989)

Multifrequency Observations of Blazars. IV. The Variability of the Radio to Ultraviolet Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, & M. G. Smith.* 340, 150, 69-A2 (1989)

BROWN, LARRY W. Differential Imaging of [Fe X] in IC 443. *Larry W. Brown, Bruce E. Woodgate, & Robert Petre.* 334, 852, 165-G1 (1988)

BROWN, LAWRENCE. The Lithium Isotope Ratio in Population II Halo Dwarfs: A Proposed Test of the Late Decaying Massive Particle Nucleosynthesis Scenario. *Lawrence Brown & David N. Schramm.* 329, L103, 89-F2 (1988)

BROWN, M. E. The Local Extragalactic Velocity Field, the Local Mean Mass Density, and Biased Galaxy Formation. *M. E. Brown & P. J. E. Peebles.* 317, 588, 72-E6 (1987)

BROWN, MICHAEL E. The Shane-Wirtanen Counts: Observability of the Galaxy Correlation Function. *Michael E. Brown & Edward J. Groth.* 338, 605, 41-E1 (1989)

BROWN, P. J. F. A Model Atmosphere Analysis of the Faint Early-Type Halo Star PHL 346. *F. P. Keenan, D. J. Lennon, P. J. F. Brown, & P. L. Dufton.* 307, 694, 104-E2 (1986)

The Determination of Element Abundances in the Solar Neighborhood from B-Type Stellar Spectra. II. Non–LTE Calculations for Ar II. *D. E. Holmgren, P. J. F. Brown, P. L. Dufton, & F. P. Keenan.* 364, 657, 204-C11 (1990)

BROWN, PAUL J. F. PG 0832+676: An Apparently Normal B1 V Star 18 Kiloparsecs above the Galactic Plane. *Paul J. F. Brown, Philip L. Dufton, Francis P. Keenan, Alec Boksenberg, David L. King, & Max Pettini.* 339, 397, 55-A2 (1989)

BROWN, R. D. A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)

BROWN, R. H. Infrared Spectroscopy, Imaging, and 10 Micron Photometry of Giclas 29-38. *A. T. Tokunaga, K.-W. Hodapp, E. E. Becklin, D. P. Cruikshank, M. Rigler, D. Toomey, R. H. Brown, & B. Zuckerman.* 332, L71, 137-D1 (1988)

BROWN, R. L. The Size of the $z = 0.437$ H I Absorption Region toward the QSO 3C 196. *R. L. Brown, J. J. Broderick, K. J. Johnston, J. M. Benson, K. J. Mitchell, & E. B. Waltman.* 329, 138, 76-E3 (1988)

BROWN, ROBERT L. Confining Hot Spots in 3C 196: Implications for QSO–Companion Galaxies. *Robert L. Brown, J. J. Broderick, & K. J. Mitchell.* 306, 107, 82-D6 (1986)

BROWN, RONALD D. New Interstellar Masers in Nonmetastable Ammonia. *Suzanne C. Madden, William M. Irvine, Henry E. Matthews, Ronald D. Brown, & Peter D. Godfrey.* 300, L79, 13-F2 (1986)

Production of Interstellar HCN and HNC. *Ronald D. Brown, Frank R. Burden, & Andrew Cuno.* 347, 855, 194-A7 (1989)

BROWN, TIMOTHY M. Depth and Latitude Dependence of Solar Rotation. *Timothy M. Brown & Cherilynn A. Morrow.* 314, L21, 33-C8 (1987)

Inferring the Sun's Internal Angular Velocity from Observed p-Mode Frequency Splittings. *Timothy M. Brown, Jørgen Christensen-Dalsgaard, Wojciech A. Dziembowski, Philip Goode, Douglas O. Gough, & Cherilynn A. Morrow.* 343, 526, 124-E6 (1989)

A Technique for Estimating Complicated Power Spectra from Time Series with Gaps. *Timothy M. Brown & Jørgen Christensen-Dalsgaard.* 349, 667, 23-E2 (1990)

A Search for Solar-like Oscillations in α Centauri A. *Timothy M. Brown & Ronald L. Gilliland.* 350, 839, 36-D5 (1990)

BROWN, W. A. Electron Density Diagnostics in the 10–100 Å Interval for a Solar Flare. *W. A. Brown, M. E. Bruner, L. W. Acton, & H. E. Mason.* 301, 981, 26-D10 (1986)

BROWN, W. L. Experimental Study of Erosion of Methane Ice by Energetic Ions and Some Considerations for Astrophysics. *L. J. Lanzerotti, W. L. Brown, & K. J. Marcantonio.* 313, 910, 26-F7 (1987)

BROWNE, I. W. A. Relativistic Beaming and Quasar Emission Lines. *Beverley J. Wills & I. W. A. Browne.* 302, 56, 28-E9 (1986)

BROWNSBERGER, KENNETH R. Optical Observations of the X-Ray Binary V1727 Cygni (=4U 2129+47) during a Low State: Some Unexpected Results. *John R. Thorstensen, Kenneth R. Brownsberger, Delo E. Mook, The Off-Campus Program Students, Ronald A. Remillard, Jeffrey E. McClintock, David C. Koo, & Philip A. Charles.* 334, 430, 159-E1 (1988)

BRUCE, D. E. Discovery of Interstellar Acetylene. *J. H. Lacy, Neal J. Evans II, J. M. Achtermann, D. E. Bruce, J. F. Arens, & J. S. Carr.* 342, L43, 109-D7 (1989)

BRUCE, T. E. G. The Stellar Dynamics of NGC 1399. *G. V. Bicknell, D. Carter, N. E. B. Killeen, & T. E. G. Bruce.* 336, 639, 10-D6 (1989)

BRUECKNER, G. E. High-Resolution Telescope and Spectrograph Images of the Solar Chromosphere and Transition Zone. *K. P. Dere, J.-D. F. Bartoe, & G. E. Brueckner.* 305, 947, 79-C13 (1986)

The High-Resolution Solar Spectrum, 1175–1710 Å. *G. D. Sandlin, J.-D. F. Bartoe, G. E. Brueckner, R. Tousey, & M. E. VanHoosier.* 61, 801, 29-A4 (1986)

Outflows and Ejections in the Solar Transition Zone. *K. P. Dere, J.-D. F. Bartoe, & G. E. Brueckner.* 310, 456, 137-A1 (1986)

Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)

Plasma Motions in an Emerging Flux Region. *G. E. Brueckner, J.-D. F. Bartoe, J. W. Cook, K. P. Dere, D. Socker, H. Kurokawa, & M. McCabe.* 335, 986, 183-E2 (1988)

Intermediate-Term Solar Periodicities: 100–500 Days. *J. L. Lean & G. E. Brueckner.* 337, 568, 24-E8 (1989)

Transition Zone Flows Observed in a Coronal Hole on the Solar Disk. *K. P. Dere, J.-D. F. Bartoe, G. E. Brueckner, & F. Recely.* 345, L95, 165-C9 (1989)

Return of the Hard Solar Flares' 154 Day Periodicity in Solar Cycle 22 and Evidence for a Phase Relationship of This Periodicity between Cycles 21 and 22. *G. E. Brueckner & J. W. Cook.* 350, L21, 31-C6 (1990)

BRUENN, STEPHEN W. A Comparison of Recent Numerical Calculations of Stellar Core Collapse. *Stephen W. Bruenn.* 62, 331, 35-G7 (1986)

A Simple Model of Entropy Generation and Deleptonization in Collapsing Stellar Cores. *Stephen W. Bruenn.* 311, L69, 160-D7 (1986)

The Prompt-Shock Supernova Mechanism. I. The Effect of the Free-Proton Mass Fraction and the Neutrino Transport Algorithm. *Stephen W. Bruenn.* 340, 955, 80-C1 (1989)

The Prompt-Shock Supernova Mechanism. II. Supranuclear EOS Behavior and the Precollapse Model. *Stephen W. Bruenn.* 341, 385, 88-E5 (1989)

Neutrino Transport during the Core Bounce Phase of a Type II Supernova Explosion. *Peter M. Giovanoni, Donald C. Ellison, & Stephen W. Bruenn.* 342, 416, 105-G12 (1989)

BRUGEL, E. W. Ultraviolet Spectra of HH 1 and HH 2: Spatial Variations and the Continuum Problem. *K.-H. Böhm, Th. Bührke, A. C. Raga, E. W. Brugel, A. N. Witt, & R. Mundt.* 316, 349, 53-G7 (1987)

BRUGEL, EDWARD W. Jets from Young Stars: CCD Imaging, Long-Slit Spectroscopy, and Interpretation of Existing Data. *Reinhard Mundt, Edward W. Brugel, & Thomas Bührke.* 319, 275, 96-A6 (1987)

Mg II Line Profiles of the Mira S Carinae. *Jay A. Bookbinder, Edward W. Brugel, & Alexander Brown.* 342, 516, 107-B2 (1989)

BRUHWEILER, F. C. Observations of Three BL Lacertae Objects: Constraints on Inhomogeneous Relativistically Beamed Jet Models. *D. M. Worrall, J. M. Rodríguez-Espinosa, W. Z. Wiśniewski, H. R. Miller, F. C. Bruhweiler, M. F. Aller, & H. D. Aller.* 303, 589, 49-A2 (1986)

Ultraviolet Observations of V471 Tauri: Evidence for a Nova-like Outburst? *F. C. Bruhweiler & E. M. Sion.* 304, L21, 61-B8 (1986)

Ultraviolet Spectroscopy of the "Jetlike" Condensations of NGC 4151. *F. C. Bruhweiler & Andrew M. Smith.* 327, 664, 56-A1 (1988)

Evidence for a Cool Wind from the K2 Dwarf in the Detached Binary V471 Tauri. *D. J. Mullan, E. M. Sion, F. C. Bruhweiler, & K. G. Carpenter.* 339, L33, 58-D1 (1989)

BRUHWEILER, FRED C. Discovery of a Cool Expanding Shell at −1200 Kilometers per Second around V471 Tauri. *Edward M. Sion, Fred C. Bruhweiler, Dermott Mullan, & Ken Carpenter.* 341, L17, 91-B9 (1989)

BRUHWEILER, FREDERICK C. The Unusual Ultraviolet Variability of the QSO 3C 232. *Frederick C. Bruhweiler, Minas Kafatos, & Ulysses J. Sofia.* 303, L31, 53-B10 (1986)
Deep *Einstein* X-Ray Imagery of the Small Magellanic Cloud. *Frederick C. Bruhweiler, Daniel A. Klinglesmith III, Theodore R. Gull, & Sabatino Sofia.* 317, 152, 65-E11 (1987)
The Stellar Radiation Field and the Ionization of H and He in the Local Interstellar Medium. *Frederick C. Bruhweiler & Kwang-Ping Cheng.* 335, 188, 172-E4 (1988)
Highly Ionized Species and Circumstellar Shells in B8–A1 Stars. *Frederick C. Bruhweiler, C. A. Grady, & Weihsueh A. Chiu.* 340, 1038, 81-C1 (1989)
Terminal Velocity of Wind, Mass Loss, and Absorption Lines in the Central Star of the Planetary Nebula 75 + 35°1. *Walter A. Feibelman & Frederick C. Bruhweiler.* 347, 901, 194-F3 (1989)
Ultraviolet Observations of the Enigmatic Bipolar Nebula M1-92. *Walter A. Feibelman & Frederick C. Bruhweiler.* 354, 262, 77-D1 (1990)
Ultraviolet Fe VII Absorption Lines in Planetary Nebula Nuclei, Hot Subdwarfs, and Hot Degenerate Objects. *Walter A. Feibelman & Frederick C. Bruhweiler.* 357, 548, 119-D9 (1990)
Ionization Processes in the Local Interstellar Medium: Effects of the Hot Coronal Substrate. *Kwang-Ping Cheng & Frederick C. Bruhweiler.* 364, 573, 203-C5 (1990)
BRUMMELL, NICHOLAS H. Turbulent Supersonic Convection in Three Dimensions. *Andrea Malagoli, Fausto Cattaneo, & Nicholas H. Brummell.* 361, L33, 161-G1 (1990)
BRUNEL, F. Current Loop Coalescence Model of Solar Flares. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 321, 1031, 135-F10 (1987)
Current Loop Coalescence Model of Solar Flares: Erratum. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 329, 517, 80-G1 (1988) (Orig. paper in 321, 1031, 135-F10 (1987))
BRUNER, M. E. Electron Density Diagnostics in the 10–100 Å Interval for a Solar Flare. *W. A. Brown, M. E. Bruner, L. W. Acton, & H. E. Mason.* 301, 981, 26-D10 (1986)
Radiating Properties of Solar Plasmas. *M. E. Bruner & R. W. P. McWhirter.* 326, 1002, 44-E7 (1988)
Dynamic Evolution of the Source Volumes of Gradual and Impulsive Solar Flare Emissions. *M. E. Bruner, C. J. Crannell, F. Goetz, A. Magun, & D. L. McKenzie.* 334, 494, 160-C6 (1988)
BRUNER, MARILYN E. A Comparison of Photospheric Electric Current and Ultraviolet and X-Ray Emission in a Solar Active Region. *Bernhard M. Haisch, Marilyn E. Bruner, M. J. Hagyard, & R. M. Bonnet.* 300, 428, 5-F8 (1986)
BRUNGARDT, CHRIS L. Line Width–Luminosity Correlation for Starburst Galaxies. *Chris L. Brungardt.* 327, L51, 61-B12 (1988)
BRUNISH, W. M. Evolution of Cepheids. I. The Effects of an Enhanced $^{12}C(\alpha,\gamma)^{16}O$ Rate. *W. M. Brunish & S. A. Becker.* 351, 258, 41-C1 (1990)
BRUNISH, WENDEE M. A Comparison between Mass-losing and Standard Solar Models. *Joyce A. Guzik, L. A. Willson, & Wendee M. Brunish.* 319, 957, 105-D5 (1987)
BRUNNER, H. *EXOSAT* Observations of 3C 371. *R. Staubert, H. Brunner, & D. M. Worrall.* 310, 694, 141-E6 (1986)
BRUZUAL A., GUSTAVO. Self-regulated Cooling Flows in Elliptical Galaxies and in Cluster Cores: Is Excusively Low Mass Star Formation Really Necessary? *Joseph Silk, S. Djorgovski, Rosemary F. G. Wyse, & Gustavo Bruzual A.* 307, 415, 101-C1 (1986)
A Model for the Effects of Dust on the Spectra of Disk Galaxies. I. General Treatment. *Gustavo Bruzual A., Gladis Magris C., & Nuria Calvet.* 333, 673, 147-E1 (1988)
BRYAN, GREG L. On the Formation of Carbon Stars. *Greg L. Bryan, Kevin Volk, & Sun Kwok.* 365, 301, 210-B7 (1990)
BRYANT, W. Limits on the Galactic and Cosmic Ionizing Fluxes from Measurements of Hα Emission from the High-Velocity Neutral Hydrogen Clouds. *A. Songaila, W. Bryant, & L. L. Cowie.* 345, L71, 165-A10 (1989)
BRYJA, C. O. Photometry of Variable AFGL Sources. *Terry Jay Jones, C. O. Bryja, Robert D. Gehrz, Thomas E. Harrison, Joni J. Johnson, Dimitri I. Klebe, & Geoffrey F. Lawrence.* 74, 785, 41-E11 (1990)
BRYNILDSEN, N. Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)
BUCCHERI, R. MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)
BUCCIARELLI, B. Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)
The Problem of the *Hipparcos* Reference Frame. *M. G. Lattanzi, B. Bucciarelli, & P. L. Bernacca.* 73, 481, 25-A7 (1990)
Two Successful Techniques for Schmidt Plate Astrometry. *L. G. Taff, M. G. Lattanzi, & B. Bucciarelli.* 358, 359, 126-E1 (1990)
Catalog-to-Catalog Reductions. *L. G. Taff, B. Bucciarelli, & M. G. Lattanzi.* 361, 667, 166-D3 (1990)
BUCCIFERRO, R. R. Superluminal Motion of the Radio Core of BL Lacertae: 1980.4–1988.3. *R. L. Mutel, R. B. Phillips, Bumei Su, & R. R. Bucciferro.* 352, 81, 51-B1 (1990)
BUCH, V. Direct Photodissociation of CH Bonds in Polycyclic Aromatic Hydrocarbons: Implications for the Infrared Emission Bands. *V. Buch.* 343, 208, 120-F14 (1989)
BUCHLER, J. R. The Structure of the Thermal Modes in Pulsating Stars. *W. D. Pesnell & J. R. Buchler.* 303, 740, 50-F1 (1986)
The Effects of a 2:1 Resonance in Nonlinear Radial Stellar Pulsations. *J. R. Buchler & G. Kovács.* 303, 749, 50-F10 (1986)
Fourier Analysis of the Light Curves of the RR Lyrae Stars in the Globular Clusters M15, NGC 6171, and NGC 6723. *G. Kovács, I. Shlosman, & J. R. Buchler.* 307, 593, 103-D7 (1986)
Application of Time-dependent Fourier Analysis to Nonlinear Pulsational Stellar Models. *G. Kovács, J. R. Buchler, & C. G. Davis.* 319, 247, 95-F6 (1987)
BUCHLER, J. ROBERT. On the Modal Selection of Radial Stellar Pulsators. *J. Robert Buchler & Géza Kovács.* 308, 661, 116-C1 (1986)
Modal Selection in Stellar Pulsators. II. Application to RR Lyrae Models. *J. Robert Buchler & Géza Kovács.* 318, 232, 81-D7 (1987)
Period Doubling Bifurcations and Chaos in W Virginis Models. *J. Robert Buchler & Géza Kovács.* 320, L57, 114-E3 (1987)
A Survey of RR Lyrae Models and Search for Steady Multimode Pulsations. *Géza Kovács & J. Robert Buchler.* 324, 1026, 14-G3 (1988)
Regular and Irregular Nonlinear Pulsations in Population II Cepheid Models. *Géza Kovács & J. Robert Buchler.* 334, 971, 167-C1 (1988)
The Effects of 3:1 Resonances in Stellar Pulsations. *Pawel Moskalik & J. Robert Buchler.* 341, 997, 97-E1 (1989)
The Cepheid Bump Progression and Amplitude Equations. *Géza Kovács & J. Robert Buchler.* 346, 898, 178-D1 (1989)
Cepheid Radial Velocity Curves Revisited. *Géza Kovács, Erika G. Kisvarsányi, & J. Robert Buchler.* 351, 606, 47-F1 (1990)
A Survey of Bump Cepheid Model Pulsations. *J. Robert Buchler, Pawel Moskalik, & Géza Kovács.* 351, 617, 47-G1 (1990)
Resonances and Period Doubling in the Pulsations of Stellar Models. *Pawel Moskalik & J. Robert Buchler.* 355, 590, 95-G12 (1990)
BUCHMANN, L. Stellar Reaction Rates of Alpha Capture on Light ($N \neq Z$) Nuclei and Their Astrophysical Implications. *L. Buchmann, J. M. D'Auria, & P. McCorquodale.* 324, 953, 14-A6 (1988)
The Hot Proton-Proton Chains in Low-Metallicity Objects. *M. Wiescher, J. Görres, S. Graff, L. Buchmann, & F.-K. Thielemann.* 343, 352, 122-E1 (1989)
BUCKLEY, D. A. H. The Discovery of Eight Bright Active Galactic Nuclei Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, H. V. Bradt, D. A. H. Buckley, W. Roberts, D. A. Schwartz, I. R. Tuohy, & K. Wood.* 301, 742, 23-F5 (1986)
Identification of Two Southern X-Ray Emitting Cataclysmic Variables. *I. R. Tuohy, D. A. H. Buckley, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 311, 275, 149-A12 (1986)
Discovery of Three New RS Canum Venaticorum–like Counterparts to *HEAO 1* X-Ray Sources. *D. A. H. Buckley, I. R. Tuohy, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 315, 273, 42-G14 (1987)

A Spectroscopic, Photometric, and X-Ray Study of the DQ Herculis System 1H0542–407. *D. A. H. Buckley & I. R. Tuohy.* 344, 376, 137-F1 (1989)

Two X-Ray–selected BL Lacertae Objects Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, I. R. Tuohy, R. J. V. Brissenden, D. A. H. Buckley, D. A. Schwartz, E. D. Feigelson, & S. Tapia.* 345, 140, 150-F11 (1989)

H0534–581: A New Intermediate Polar? *D. A. H. Buckley & I. R. Tuohy.* 349, 296, 17-E4 (1990)

LB 1800: A Bright Eclipsing Cataclysmic Variable and a Transient X-Ray Source. *D. A. H. Buckley, D. J. Sullivan, R. A. Remillard, I. R. Tuohy, & M. Clark.* 355, 617, 96-C1 (1990)

BUDDING, E. An Analysis of the Light Curves of Short-Period RS Canum Venaticorum Stars: Starspots and Fundamental Properties. *E. Budding & M. Zeilik.* 319, 827, 104-A12 (1987)

Radio Emission from EA Eclipsing Binaries: Evidence for Kilogauss Surface Fields on Both Early-Type and Late-Type Stars. *R. T. Stewart, O. B. Slee, Graeme L. White, E. Budding, D. W. Coates, K. Thompson, & John D. Bunton.* 342, 463, 106-D7 (1989)

Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. II. RT Andromedae. *M. Zeilik, D. A. Cox, C. De Blasi, M. Rhodes, & E. Budding.* 345, 991, 162-G5 (1989)

Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. III. BH Virginis. *M. Zeilik, M. Ledlow, M. Rhodes, M. J. Arévalo, & E. Budding.* 354, 352, 78-D8 (1990)

Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. IV. WY Cancri. *M. Zeilik, D. A. Cox, M. J. Ledlow, M. Rhodes, P. A. Heckert, & E. Budding.* 363, 647, 192-B11 (1990)

BUDDING, EDWIN. A Half-Century of Starspot Activity on SV Camelopardalis. *Michael Zeilik, Cecilia De Blasi, Michael Rhodes, & Edwin Budding.* 332, 293, 126-D1 (1988)

BUDGE, KENT G. An Improved Henyey Method for Calculating Stellar Models. *Kent G. Budge.* 312, 217, 3-C10 (1987)

Lithium and Metallicity in the Ursa Major Group. *Ann Merchant Boesgaard, Kent G. Budge, & Elizabeth E. Burck.* 325, 749, 28-F10 (1988)

Lithium in the Pleiades and α Persei Clusters. *Ann Merchant Boesgaard, Kent G. Budge, & Mary Elizabeth Ramsay.* 327, 389, 51-C2 (1988)

Lithium in the Hyades, the Hyades Moving Group, and Praesepe. *Ann Merchant Boesgaard & Kent G. Budge.* 332, 410, 127-E11 (1988)

Beryllium Abundances in the Lithium-deficient Hyades F Stars. *Ann Merchant Boesgaard & Kent G. Budge.* 338, 875, 44-G1 (1989)

BUDIANSKY, BERNARD. Thermal Effects of Submerged Horizontal Flux Tubes. *Max Krook & Bernard Budiansky.* 308, 966, 119-E5 (1986)

BÜHRKE, TH. Ultraviolet Spectra of HH 1 and HH 2: Spatial Variations and the Continuum Problem. *K.-H. Böhm, Th. Bührke, A. C. Raga, E. W. Brugel, A. N. Witt, & R. Mundt.* 316, 349, 53-G7 (1987)

BÜHRKE, THOMAS. Jets from Young Stars: CCD Imaging, Long-Slit Spectroscopy, and Interpretation of Existing Data. *Reinhard Mundt, Edward W. Brugel, & Thomas Bührke.* 319, 275, 96-A6 (1987)

A Close Association of Five Jet and Outflow Sources in the HL Tauri Region. *Reinhard Mundt, Thomas P. Ray, & Thomas Bührke.* 333, L69, 152-D10 (1988)

BUJARRABAL, V. The Molecular Envelope of Mira. *P. Planesas, R. Bachiller, J. Martín-Pintado, & V. Bujarrabal.* 351, 263, 41-C7 (1990)

BUKHARI, FADEL A. Empirical Determination of the Apparent Shapes and Orientations of Galaxy Clusters. *Fadel A. Bukhari.* 333, 561, 146-B6 (1988)

Analytic Determination of the Pole of a Galaxy Cluster. *Fadel A. Bukhari.* 333, 564, 146-B9 (1988)

BUNTON, JOHN D. Radio Emission from EA Eclipsing Binaries: Evidence for Kilogauss Surface Fields on Both Early-Type and Late-Type Stars. *R. T. Stewart, O. B. Slee, Graeme L. White, E. Budding, D. W. Coates, K. Thompson, & John D. Bunton.* 342, 463, 106-D7 (1989)

BUONANNO, R. CCD Photometry of the Large Magellanic Cloud Cluster NGC 1866: Observational Results. *E. Brocato, R. Buonanno, V. Castellani, & A. R. Walker.* 71, 25, 33-D1 (1989)

BUONANNO, ROBERTO. Low-Luminosity Stellar Mass Functions in Globular Clusters. *Harvey B. Richer, Gregory G. Fahlman, Roberto Buonanno, & Flavio Fusi Pecci.* 359, L11, 138-B3 (1990)

BURATTI, R. Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

BURBIDGE, E. M. Variation in Hydrogen Emission Lines of the QSO PKS 0736+017. *W. Zheng & E. M. Burbidge.* 306, L67, 93-G1 (1986)

BURBIDGE, E. MARGARET. Spectrophotomery of Six Broad Absorption Line QSOs. *Vesa T. Junkkarinen, E. Margaret Burbidge, & Harding E. Smith.* 317, 460, 69-A7 (1987)

The Nature of the BL Lacertae Object AO 0235+164. *Ross D. Cohen, Harding E. Smith, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 318, 577, 87-C2 (1987)

Emission-Line Variability and the Broad-Line Region of Quasi-stellar Objects. I. Time Scales and Photon Densities. *Wei Zheng, E. Margaret Burbidge, Harding E. Smith, Ross D. Cohen, & Steven E. Bradley.* 322, 164, 139-F5 (1987)

An Unusual Broad Line Profile in the QSO 0054+144: Evidence for an Optical Jet? *Wei Zheng & E. Margaret Burbidge.* 328, 175, 63-G11 (1988)

Variability of the Broad Absorption Lines in the QSO UM 232. *Thomas A. Barlow, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 347, 674, 191-E7 (1989)

BURBIDGE, G. A New Optical Catalog of Quasi-stellar Objects. *A. Hewitt & G. Burbidge.* 63, 1, 1-A5 (1987)

The First Addition to the New Optical Catalog of Quasi-stellar Objects. *A. Hewitt & G. Burbidge.* 69, 1, 1-B1 (1989)

The Peculiar Hydrogen Cloud in the Virgo Cluster and 3C 273. *H. C. Arp & G. Burbidge.* 353, L1, 67-A7 (1990)

The Redshift Peak at $z = 0.06$. *G. Burbidge & A. Hewitt.* 359, L33, 144-A9 (1990)

Associations between Quasi-stellar Objects and Galaxies. *G. Burbidge, A. Hewitt, J. V. Narlikar, & P. Das Gupta.* 74, 675, 40-C2 (1990)

BURCK, ELIZABETH E. Lithium and Metallicity in the Ursa Major Group. *Ann Merchant Boesgaard, Kent G. Budge, & Elizabeth E. Burck.* 325, 749, 28-F10 (1988)

BURDEN, FRANK R. Production of Interstellar HCN and HNC. *Ronald D. Brown, Frank R. Burden, & Andrew Cuno.* 347, 855, 194-A7 (1989)

BURG, R. The Mass Function of Seyfert 1 Nuclei. *P. Padovani, R. Burg, & R. A. Edelson.* 353, 438, 69-D10 (1990)

BURGER, R. A. The Calculation of Neutral Sheet Drift in Two-dimensional Cosmic-Ray Modulation Models. *R. A. Burger & M. S. Potgieter.* 339, 501, 56-B5 (1989)

Cosmic-Ray Streaming in the Born Approximation. *J. W. Bieber & R. A. Burger.* 348, 597, 10-A11 (1990)

A Comparison of Predictions of a Wavy Neutral Sheet Drift Model with Cosmic-Ray Data over a Whole Modulation Cycle: 1976–1987. *W. R. Webber, M. S. Potgieter, & R. A. Burger.* 349, 634, 23-B5 (1990)

BURGETT, WILLIAM S. Are Superclusters Correlated on a Very Large Scale? *Neta A. Bahcall & William S. Burgett.* 300, L35, 13-B10 (1986)

Peculiar Velocity and Geometrical Elongation of Large-Scale Structures. *Neta A. Bahcall, Raymond M. Soneira, & William S. Burgett.* 311, 15, 146-B8 (1986)

BURKE, B. F. The MIT–Green Bank (MG) 5 GHz Survey. *C. L. Bennett, C. R. Lawrence, B. F. Burke, J. N. Hewitt, & J. Mahoney.* 61, 1, 16-A6 (1986)

5 GHz Radio Structure and Optical Identifications of Sources from the MG Survey. II. Maps and Finding Charts. *C. R. Lawrence, C. L. Bennett, J. N. Hewitt, G. I. Langston, S. E. Klotz, B. F. Burke, & K. C. Turner.* 61, 105, 18-A5 (1986)

The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

Magnetic Field Structure of the Star-forming Region W3(OH): VLBI Spectral Line Results. *J. A. García-Barreto, B. F. Burke, M. J. Reid, J. M. Moran, A. D. Haschick, & R. T. Schilizzi.* 326, 954, 44-A8 (1988)

VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

Images of Four Compact Steep-Spectrum Quasars with a Resolution of 20 Milliarcseconds at 329.1 MHz. *R. S. Simon, A. C. S. Readhead, A. T. Moffet, P. N. Wilkinson, R. Booth, B. Allen, & B. F. Burke.* 354, 140, 75-F8 (1990)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

BURKE, BERNARD. The Third MIT–Green Bank 5 GHz Survey. *Mark Griffith, Glen Langston, Mike Heflin, Sam Conner, Joseph Lehár, & Bernard Burke.* 74, 129, 31-E9 (1990)

BURKE, BERNARD F. The Second MIT–Green Bank 5 GHz Survey. *Glen I. Langston, Michael B. Heflin, Sam R. Conner, Joseph Lehár, Chris L. Carrilli, & Bernard F. Burke.* 72, 621, 11-A1 (1990)

Faint Radio Sources and Gravitational Lensing. *Glen I. Langston, Samuel R. Conner, Michael B. Heflin, Joseph Lehár, & Bernard F. Burke.* 353, 34, 62-E1 (1990)

BURKE, P. G. Fine-Structure Populations for the ^6D Ground State of Fe II. *F. P. Keenan, A. Hibbert, P. G. Burke, & K. A. Berrington.* 332, 539, 129-A5 (1988)

BURKERT, A. The Influence of Our Galaxy on the Evolution of the Magellanic Clouds. *A. Burkert, M. Livio, & J. W. Truran.* 360, 68, 145-G11 (1990)

BURKERT, ANDREAS. The Common Envelope Phase in the Outbursts of Classical Novae. *Mario Livio, Anurag Shankar, Andreas Burkert, & James W. Truran.* 356, 250, 102-B11 (1990)

BURNARD, DAVID J. Continuum Radiative Transfer in X-Ray Pulsar Accretion Columns. I. Numerical Methods. *David J. Burnard, Richard I. Klein, & Jonathan Arons.* 324, 1001, 14-E4 (1988)

Continuum Radiative Transfer in the Polar Columns of Accretion Powered Pulsars: Incoherent Scattering. *David J. Burnard, Richard I. Klein, & Jonathan Arons.* 349, 262, 17-B6 (1990)

BURNELL, J. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

BURNETT, T. H. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

BURNS, JACK O. Limb Brightening and Filamentation in the Inner Radio Jet of Centaurus A. *David A. Clarke, Jack O. Burns, & Eric D. Feigelson.* 300, L41, 13-C1 (1986)

Observational Constraints on Bending the Wide-Angle Tailed Radio Galaxy 1919+479. *Jack O. Burns, Christopher P. O'Dea, Stephen A. Gregory, & Thomas J. Balonek.* 307, 73, 95-F9 (1986)

Numerical Simulations of a Magnetically Confined Jet. *David A. Clarke, Michael L. Norman, & Jack O. Burns.* 311, L63, 160-D2 (1986)

B2 0800+24: A Narrow-Angle Tail Radio Galaxy in a Small Group of Galaxies. *John T. Stocke & Jack O. Burns.* 319, 671, 102-C8 (1987)

Comparisons of the Spatial Distribution of Abell Clusters against Models with Gaussian Initial Conditions. *David J. Batuski, Adrian L. Melott, & Jack O. Burns.* 322, 48, 138-D12 (1987)

A $40h^{-1}$ Mpc Diameter Void in Pisces-Cetus. *Jack O. Burns, J. Ward Moody, Jean P. Brodie, & David J. Batuski.* 335, 542, 178-D7 (1988)

The Distribution of Clusters in the Southern ACO Catalog. *David J. Batuski, Neta A. Bahcall, Ronald P. Olowin, & Jack O. Burns.* 341, 599, 92-F1 (1989)

Numerical Observations of a Simulated Jet with a Passive Helical Magnetic Field. *David A. Clarke, Michael L. Norman, & Jack O. Burns.* 342, 700, 111-B10 (1989)

Low-Temperature Transonic Cooling Flows in Galaxy Clusters. *Martin E. Sulkanen, Jack O. Burns, & Michael L. Norman.* 344, 604, 142-A8 (1989)

BURNS, JOSEPH E. Lyα Emission from Disk Absorption Systems at High Redshift: Star Formation in Young Galaxy Disks. *Harding E. Smith, Ross D. Cohen, Joseph E. Burns, David J. Moore, & Barbara A. Uchida.* 347, 87, 183-B11 (1989)

BURNS, M. S. Optical Color, Polarimetric, and Timing Measurements of the 50 Millisecond Large Magellanic Cloud Pulsar, PSR 0540−69. *J. Middleditch, C. R. Pennypacker, & M. S. Burns.* 315, 142, 41-E8 (1987)

BURROWS, ADAM. Speculations on the Fizzled Collapse of a Massive Star. *Adam Burrows.* 300, 488, 8-D12 (1986)

The Birth of Neutron Stars. *Adam Burrows & James M. Lattimer.* 307, 178, 97-A10 (1986)

New Constraints on the Progenitor of the Binary Pulsar: PSR 1913+16. *Adam Burrows & S. E. Woosley.* 308, 680, 116-D6 (1986)

Convection and the Mechanism of Type II Supernovae. *Adam Burrows.* 318, L57, 92-C3 (1987)

Neutrinos from SN 1987A. *Adam Burrows & James M. Lattimer.* 318, L63, 92-C8 (1987)

A Statistical Derivation of an Upper Limit to the Electron Neutrino Mass from the SN 1987A Neutrino Data. *Adam Burrows.* 328, L51, 74-E3 (1988)

Supernova Neutrinos. *Adam Burrows.* 334, 891, 166-C3 (1988)

The Effect of Gas and Grain Opacity on the Cooling of Brown Dwarfs. *Jonathan I. Lunine, W. B. Hubbard, Adam Burrows, Y-P. Wang, & K. Garlow.* 338, 314, 36-F11 (1989)

SN 1987A Gamma-Ray Line Profiles and Fluxes. *R. W. Bussard, Adam Burrows, & Lih-Sin The.* 341, 401, 88-F7 (1989)

Theoretical Models of Very Low Mass Stars and Brown Dwarfs. *Adam Burrows, W. B. Hubbard, & Jonathan I. Lunine.* 345, 939, 162-C1 (1989)

X-Ray and Gamma-Ray Fluxes from SN 1987A. *Lih-Sin The, Adam Burrows, & Roger Bussard.* 352, 731, 60-A11 (1990)

The Initial Mass Function for Very Low Mass Stars in the Hyades. *W. B. Hubbard, Adam Burrows, & Jonathan I. Lunine.* 358, L53, 133-D1 (1990)

X- and Gamma-Ray Signatures of Type Ia Supernovae. *Adam Burrows & Lih-Sin The.* 360, 626, 154-A1 (1990)

Neutrinos from Type II Supernovae: The First 100 Milliseconds. *Eric S. Myra & Adam Burrows.* 364, 222, 196-G1 (1990)

BURROWS, CHRISTOPHER. Broad-Band Imaging of the Beta Pictoris Circumstellar Disk. *Francesco Paresce & Christopher Burrows.* 319, L23, 100-C1 (1987)

The Structure of the Inner R Aquarii Nebula in the Light of Hα and [N II] λ6584 Emission. *Francesco Paresce, Christopher Burrows, & Keith Horne.* 329, 318, 78-E8 (1988)

The Structure of the Beta Pictoris Circumstellar Disk From Combined *IRAS* and Coronagraphic Observations. *Pawel Artymowicz, Christopher Burrows, & Francesco Paresce.* 337, 494, 23-F1 (1989)

High-Resolution Coronagraphy of the Circumstellar Environment of SN 1987A. *Francesco Paresce & Christopher Burrows.* 337, L13, 25-B6 (1989)

BURROWS, D. N. A 9 Month Long Soft X-Ray Survey of the Large Magellanic Cloud. I. X-Ray Map at 1/4 keV. *K. P. Singh, J. A. Nousek, D. N. Burrows, & G. P. Garmire.* 313, 185, 17-A7 (1987)

Observational Constraints on an Embedded Cloud Model for the Soft X-Ray Diffuse Background. *D. N. Burrows.* 340, 775, 78-B3 (1989)

Search for Soft X-Ray Emission from SN 1987A with a CCD X-Ray Imaging Spectrometer. *D. N. Burrows, J. A. Nousek, G. D. Berthiaume, & G. P. Garmire.* 347, 1114, 197-D7 (1989)

BURSTEIN, DAVID. The Inclination Dependence of Far-Infrared Emission from Sc Galaxies. *David Burstein & Marcia J. Lebofsky.* 301, 683, 23-B2 (1986)

Is the Distribution of Mass within Spiral Galaxies a Function of Galaxy Environment? *David Burstein, Vera C. Rubin, W. Kent Ford, Jr., & Bradley C. Whitmore.* 305, L11, 74-A13 (1986)

Spectroscopy and Photometry of Elliptical Galaxies. I. New Distance Estimator. *Alan Dressler, Donald Lynden-Bell, David Burstein, Roger L. Davies, S. M. Faber, Roberto Terlevich, & Gary Wegner.* 313, 42, 15-D7 (1987)

Spectroscopy and Photometry of Elliptical Galaxies: A Large-Scale Streaming Motion in the Local Universe. *Alan Dressler, S. M. Faber, David Burstein, Roger L. Davies, Donald Lynden-Bell, R. J. Terlevich, & Gary Wegner.* 313, L37, 27-A9 (1987)

The Relationship between Stellar Population and Radio Continuum Emission in Spiral Galaxies. *David Burstein, J. J. Condon, & Q. F. Yin.* 315, L99, 49-C8 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. II. The Spectroscopic Parameters. *Roger L. Davies, David Burstein, Alan Dressler, S. M. Faber, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 581, 26-B1 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. III. *UBV* Aperture Photometry, CCD Photometry, and Magnitude-related Parameters. *David Burstein, Roger L. Davies, Alan Dressler, S. M. Faber, Remington P. S. Stone, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 601, 26-C7 (1987)

A 1.49 GHz Supplementary Atlas of Spiral Galaxies with *H*-Magnitudes. *J. J. Condon, Q. F. Yin, & David Burstein.* 65, 543, 36-G1 (1987)

Photometry and Spectroscopy of Elliptical Galaxies. V. Galaxy Streaming toward the New Supergalactic Center. *D. Lynden-Bell, S. M. Faber, David Burstein, Roger L. Davies, Alan Dressler, R. J. Terlevich, & Gary Wegner.* 326, 19, 32-B12 (1988)

The Far-Ultraviolet Spectra of Early-Type Galaxies. *David Burstein, F. Bertola, L. M. Buson, S. M. Faber, & Tod R. Lauer.* 328, 440, 67-G4 (1988)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 69, 763, 12-G7 (1989)

On Systematic Errors in Distance Estimates of the Virgo Cluster and the Intrinsic Scatter in the Tully-Fisher Relation. *David Burstein & Somak Raychaudhury.* 343, 18, 118-C1 (1989)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary: Erratum. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 71, 173, 36-E7 (1989) (Orig. paper in 69, 763, 12-G7 (1989))

Evidence from the Motions of Galaxies for a Large-Scale, Large-Amplitude Flow toward the Great Attractor. *David Burstein, S. M. Faber, & Alan Dressler.* 354, 18, 74-C7 (1990)

Spectral Synthesis in the Ultraviolet. III. The Spectral Morphology of Normal Stars in the Mid-Ultraviolet. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 364, 272, 197-D6 (1990)

Potential, Velocity, and Density Fields from Redshift-Distance Samples: Application: Cosmography within 6000 Kilometers per Second. *Edmund Bertschinger, Avishai Dekel, S. M. Faber, Alan Dressler, & David Burstein.* 364, 370, 200-E6 (1990)

Correlations between Line Strengths and Fine Structure in Elliptical Galaxies. *François Schweizer, Patrick Seitzer, S. M. Faber, David Burstein, Cristina M. Dalle Ore, & J. Jesus Gonzalez.* 364, L33, 205-C13 (1990)

BURTON, M. G. Discovery of a Reflection Dust Envelope around IRC +10216. *M. Tamura, T. Hasegawa, N. Ukita, I. Gatley, I. S. McLean, M. G. Burton, J. T. Rayner, & M. J. McCaughrean.* 326, L17, 38-B9 (1988)

Ratios of Molecular Hydrogen Line Intensities in Shocked Gas: Evidence for Cooling Zones. *P. W. J. L. Brand, A. Moorhouse, M. G. Burton, T. R. Geballe, M. Bird, & R. Wade.* 334, L103, 169-F1 (1988)

BURTON, MICHAEL G. Observations of Fe II (26.0 Microns) in SN 1987A. *Edwin F. Erickson, Michael R. Haas, Sean W. J. Colgan, Steven D. Lord, Michael G. Burton, Jürgen Wolf, David J. Hollenbach, & Michael Werner.* 330, L39, 96-F7 (1988)

Discovery of New 2 Micron Sources in ρ Ophiuchi. *M. Barsony, Michael G. Burton, A. P. G. Russell, J. E. Carlstrom, & R. Garden.* 346, L93, 181-E4 (1989)

High Spectral Resolution Observations of Fluorescent Molecular Hydrogen in Molecular Clouds. *Michael G. Burton, T. R. Geballe, P. W. J. L. Brand, & A. Moorhouse.* 352, 625, 58-G1 (1990)

Images of Shock-excited Molecular Hydrogen in Young Stellar Outflows. *Rognvald P. Garden, Adrian P. G. Russell, & Michael G. Burton.* 354, 232, 76-G5 (1990)

Shocked [O I] 63 Micron Line Emission from the Supernova Remnant IC 443. *Michael G. Burton, D. J. Hollenbach, M. R. Haas, & E. F. Erickson.* 355, 197, 89-D1 (1990)

Velocity-resolved Far-Infrared Spectra of [Fe II]: Evidence for Mixing and Clumping in SN 1987A. *Michael R. Haas, Sean W. J. Colgan, Edwin F. Erickson, Steven D. Lord, Michael G. Burton, & David J. Hollenbach.* 360, 257, 148-B12 (1990)

Line Emission from Clumpy Photodissociation Regions. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 365, 620, 216-A1 (1990)

BUS, E. S. The Albedo of Titan. *G. W. Lockwood, B. L. Lutz, D. T. Thompson, & E. S. Bus.* 303, 511, 46-F2 (1986)

BUS, S. J. Near-Infrared CCD Photometry of Cygnus X-3. *R. Mark Wagner, T. J. Kreidl, S. J. Bus, & Wayne Williams.* 346, 971, 179-C1 (1989)

BUSAROW, KERRY L. Laboratory Measurement of the Pure Rotational Spectrum of Vibrationally Excited HCO^+ ($\nu = 1$) by Far-Infrared Laser Sideband Spectroscopy. *Geoffrey A. Blake, K. B. Laughlin, R. C. Cohen, Kerry L. Busarow, & R. J. Saykally.* 316, L45, 56-D7 (1987)

BUSHOUSE, HOWARD. The Far-Infrared Structure of the Luminous Interacting Galaxy Arp 299 (NGC 3690). *Marshall Joy, Daniel F. Lester, Paul M. Harvey, C. M. Telesco, Rudolf Decher, Lee J Rickard, & Howard Bushouse.* 339, 100, 51-C8 (1989)

BUSHOUSE, HOWARD A. Global Properties of Interacting Disk-Type Galaxies. *Howard A. Bushouse.* 320, 49, 108-E4 (1987)

A Case Study of Large-Scale Structure in a "Hot" Model Universe. *Joan M. Centrella, John S. Gallagher III, Adrian L. Melott, & Howard A. Bushouse.* 333, 24, 138-C4 (1988)

IRAS Observations of an Optically Selected Sample of Interacting Galaxies. *Howard A. Bushouse, Susan A. Lamb, & Michael W. Werner.* 335, 74, 171-A8 (1988)

Near-Infrared Imaging of Interacting Galaxies. *Howard A. Bushouse & Michael W. Werner.* 359, 72, 135-A1 (1990)

BUSNARDO-NETO, J. Cerenkov Damping of Surface Waves. *Altair S. Assis & J. Busnardo-Neto.* 323, 399, 157-D10 (1987)

BUSNARDO-NETO, JOSÉ. Current Generation in Extragalactic Jets by Cerenkov Damping of Magnetohydrodynamic Waves. *Luiz C. Jafelice, Reuven Opher, Altair S. Assis, & José Busnardo-Neto.* 348, 61, 1-G2 (1990)

BUSON, L. M. The Far-Ultraviolet Spectra of Early-Type Galaxies. *David Burstein, F. Bertola, L. M. Buson, S. M. Faber, & Tod R. Lauer.* 328, 440, 67-G4 (1988)

BUSON, LUCIO. Ultraviolet Observations of NGC 205. *Eric M. Wilcots, Paul Hodge, Paul B. Eskridge, Francesco Bertola, & Lucio Buson.* 364, 87, 195-A13 (1990)

BUSS, R. H., JR. Hydrocarbon Emission Features in the Infrared Spectra of Warm Supergiants. *R. H. Buss, Jr., M. Cohen, A. G. G. M. Tielens, M. W. Werner, J. D. Bregman, F. C. Witteborn, D. Rank, & S. A. Sandford.* 365, L23, 212-C6 (1990)

BUSS, RICHARD H., JR. Extinction and Abundance Properties of Alpha Scorpii Circumstellar Grains. *Theodore P. Snow, Jr., Richard H. Buss, Jr., D. P. Gilra, & J. P. Swings.* 321, 921, 134-E10 (1987)

Hot Components and Circumstellar Grains in M Supergiant Syncretic Binaries. *Richard H. Buss, Jr., & Theodore P. Snow, Jr.* 335, 331, 174-C3 (1988)

Grain Ultraviolet Extinction Properties of Recently Discovered Post–Asymptotic Giant Branch Stars. *Richard H. Buss, Jr., Henny J. G. L. M. Lamers, & Theodore P. Snow, Jr.* 347, 977, 195-F3 (1989)

BUSSARD, R. W. The Angle-dependent Compton Redistribution Function in X-Ray Sources. *P. Mészáros & R. W. Bussard.* 306, 238, 83-G12 (1986)

The Effect of a Hot, Spherical Scattering Cloud on Quasi-periodic Oscillation Behavior. *R. W. Bussard, M. C. Weisskopf, R. F. Elsner, & N. Shibazaki.* 327, 284, 50-B6 (1988)

Shot Noise Cross-Correlation Functions and Cross Spectra: Implications for Models of QPO X-Ray Sources. *N. Shibazaki, R. F. Elsner, R. W. Bussard, T. Ebisuzaki, & M. C. Weisskopf.* 331, 247, 108-G2 (1988)

SN 1987A Gamma-Ray Line Profiles and Fluxes. *R. W. Bussard, Adam Burrows, & Lih-Sin The.* 341, 401, 88-F7 (1989)

The Nonlinear Transfer Problem in Accreting Pulsars: Stimulated Scattering Effects. *S. G. Alexander, P. Mészáros, & R. W. Bussard.* 342, 928, 113-G1 (1989)

BUSSARD, ROGER. X-Ray and Gamma-Ray Fluxes from SN 1987A. *Lih-Sin The, Adam Burrows, & Roger Bussard.* 352, 731, 60-A11 (1990)

BUSSO, M. Are *s*-Elements Really Produced during Thermal Pulses in Intermediate-Mass Stars? *M. Busso, G. Picchio, R. Gallino, & A. Chieffi.* 326, 196, 34-C5 (1988)

On the Role of Low-Mass Asymptotic Giant Branch Stars in Producing a Solar System Distribution of *s*-Process Isotopes. *R. Gallino, M. Busso, G. Picchio, C. M. Raiteri, & A. Renzini.* 334, L45, 161-E5 (1988)

s-Process Nucleosynthesis: Classical Approach and Asymptotic Giant Branch Models for Low-Mass Stars. *F. Käppeler, R. Gallino, M. Busso, G. Picchio, & C. M. Raiteri.* 354, 630, 84-B7 (1990)

BUSSOLETTI, E. Amorphous Carbon and the Unidentified Infrared Bands. *A. Borghesi, E. Bussoletti, & L. Colangeli.* 314, 422, 32-G2 (1987)

Interstellar Amorphous Carbon. *E. Bussoletti, L. Colangeli, & V. Orofino.* 321, L87, 130-A7 (1987)

A Mixture of Hydrogenated Amorphous Carbon Grains and PAH Molecules: A Candidate for the Unidentified Infrared Bands? *A. Blanco, E. Bussoletti, & L. Colangeli.* 334, 875, 166-B1 (1988)

Hydrogenated Amorphous Carbon Grains in Comet Halley? *L. Colangeli, G. Schwehm, E. Bussoletti, S. Fonti, A. Blanco, & V. Orofino.* 348, 718, 11-D4 (1990)

BUST, GARY S. Were the Lyman-α Clouds Formed from Shocks? *Ethan T. Vishniac & Gary S. Bust.* 319, 14, 93-B7 (1987)

BUTA, R. The Structure and Dynamics of Ringed Galaxies. I. The Morphology of Galaxy Rings, and Statistics of Their Apparent Shapes, Relative Sizes, and Apparent Orientations with Respect to Bars. *R. Buta.* 61, 609, 26-A13 (1986)

The Structure and Dynamics of Ringed Galaxies. II. *UBVRI* Surface Photometry and Hα Kinematics of the Ringed Barred Spiral NGC 1433. *R. Buta.* 61, 631, 26-D2 (1986)

The Structure and Dynamics of Ringed Galaxies. III. Surface Photometry and Kinematics of the Ringed Nonbarred Spiral NGC 7531. *R. Buta.* 64, 1, 17-A5 (1987)

The Structure and Dynamics of Ringed Galaxies. IV. Surface Photometry and Kinematics of the Ringed Barred Spiral NGC 6300. *R. Buta.* 64, 383, 22-A5 (1987)

The Structure and Dynamics of Ringed Galaxies. V. The Kinematics of NGC 1512, NGC 3351, NGC 4725, and NGC 4736. *R. Buta.* 66, 233, 5-A5 (1988)

Weakly Barred, Early-Type Ringed Galaxies. I. The Seyfert Galaxy NGC 3081. *R. Buta.* 351, 62, 38-G2 (1990)

Weakly Barred Early-Type Ringed Galaxies. II. The Double-ringed $S0^+$ Galaxy NGC 7187. *R. Buta.* 354, 428, 81-F7 (1990)

Weakly Barred Early-Type Ringed Galaxies. III. The Remarkable Outer-ringed $S0^+$ Galaxy NGC 7020. *R. Buta.* 356, 87, 100-B5 (1990)

BUTA, RONALD J. The Distance to the Hercules Supercluster. I. Basic Data for 220 Galaxies in CGCG Field 108. *Ronald J. Buta & Harold G. Corwin, Jr.* 62, 255, 35-A5 (1986)

The Distance to the Hercules Supercluster. II. Application of Tertiary Indicators and an Estimate of the Hubble Constant. *Ronald J. Buta & Harold G. Corwin, Jr.* 62, 283, 35-D1 (1986)

BUTI, B. Coherent Radiation Mechanism for Cometary Kilometric Radiation. *G. S. Lakhina & B. Buti.* 327, 1020, 60-A13 (1988)

Plasma Conductivity for Comet Halley's Ionosphere. *B. Buti & A. Eviatar.* 336, L71, 16-G1 (1989)

Radiation from Accelerated Alfvén Solitons in Inhomogeneous Plasmas. *G. S. Lakhina, B. Buti, & N. L. Tsintsadze.* 352, 747, 60-C3 (1990)

BUTLER, MALCOLM N. Solar Antineutrinos. *Robert A. Malaney, Bradley S. Meyer, & Malcolm N. Butler.* 352, 767, 60-E9 (1990)

BUTLER, R. C. Hard X-Ray Observations of Cygnus X-1 with the MISO Telescope. *F. Perotti, A. Della Ventura, G. Villa, L. Bassani, R. C. Butler, G. Di Cocco, R. E. Baker, A. J. Dean, & C. G. Hanson.* 300, 297, 4-C12 (1986)

A Broad-Band Contemporaneous Study of the Seyfert Galaxy NGC 4151. *L. Bassani, R. C. Butler, G. Di Cocco, A. Della Ventura, F. Perotti, G. Villa, R. E. Baker, A. J. Dean, & T. J. Lee.* 311, 623, 154-F1 (1986)

BUTLER, R. PAUL. The Pleiades Rapid Rotators: Evidence for an Evolutionary Sequence. *R. Paul Butler, Ross D. Cohen, Douglas K. Duncan, & Geoffrey W. Marcy.* 319, L19, 100-B9 (1987)

BUTNER, HAROLD M. CO Observations of L1582. *Shudong Zhou, Harold M. Butner, & Neal J. Evans II.* 333, 809, 149-B9 (1988)

Testing Star Formation Theories: VLA Observations of H_2CO in the Bok Globule B335. *Shudong Zhou, Neal J. Evans II, Harold M. Butner, Marc L. Kutner, Chun Ming Leung, & Lee G. Mundy.* 363, 168, 184-C1 (1990)

High-Resolution, Far-Infrared Observations of NGC 2071. *Harold M. Butner, Neal J. Evans II, Paul M. Harvey, Lee G. Mundy, Antonella Natta, & Maria Sofia Randich.* 364, 164, 196-B1 (1990)

BUTTERWORTH, P. S. The Origin of CS in Comet IRAS-Araki-Alcock 1983d. *W. M. Jackson, P. S. Butterworth, & D. Ballard.* 304, 515, 59-E6 (1986)

BUZASI, DEREK L. A Flare Event on the Long-Period RS Canum Venaticorum System IM Pegasi. *Derek L. Buzasi, Lawrence W. Ramsey, & David P. Huenemoerder.* 322, 353, 141-F8 (1987)

Coordinated Optical and Ultraviolet Observations of IM Pegasi. *David P. Huenemoerder, Lawrence W. Ramsey, & Derek L. Buzasi.* 350, 763, 35-D13 (1990)

Fiber-optic Echelle CCD Observations of SS Bootis. *Jeffrey C. Hall, David P. Huenemoerder, Lawrence W. Ramsey, & Derek L. Buzasi.* 358, 610, 131-B3 (1990)

BUZZONI, ALBERTO. Evolutionary Population Synthesis in Stellar Systems. I. A Global Approach. *Alberto Buzzoni.* 71, 817, 47-E9 (1989)

BYRD, G. G. OJ 287: Binary Pair of Supermassive Black Holes. *A. Sillanpää, S. Haarala, M. J. Valtonen, B. Sundelius, & G. G. Byrd.* 325, 628, 27-D6 (1988)

Binary Pairs of Supermassive Black Holes: Formation in Merging Galaxies. *L. Valtaoja, M. J. Valtonen, & G. G. Byrd.* 343, 47, 118-E13 (1989)

BYRD, GENE. Tidal Generation of Active Spirals and S0 Galaxies by Rich Clusters. *Gene Byrd & Mauri Valtonen.* 350, 89, 26-B1 (1990)

BYRD, GENE G. Redshift Asymmetries in Systems of Galaxies and the Missing Mass. *Mauri J. Valtonen & Gene G. Byrd.* 303, 523, 48-C1 (1986)

Relativistic Kepler's Third Law. *Bruce M. Barker, Gene G. Byrd, & R. F. O'Connell.* 305, 623, 75-F3 (1986)

BYUN, Y.-I. High-Resolution Imaging and the H-R Diagram of Galactic Bulge Planetary Nebulae. *M. A. Dopita, J. P. Henry, I. R. Tuohy, B. L. Webster, E. H. Roberts, Y.-I. Byun, L. L. Cowie, & A. Sonneila.* 365, 640, 216-B10 (1990)

CABRIT, SYLVIE. CO Line Formation in Bipolar Flows. I. Accelerated Outflows. *Sylvie Cabrit & Claude Bertout.* 307, 313, 98-D12 (1986)

Forbidden Line and Hα Profiles in T Tauri Star Spectra: A Probe of Anisotropic Mass Outflows and Circumstellar Disks. *Suzan Edwards, Sylvie Cabrit, Stephen E. Strom, Ingeborg Heyer, Karen M. Strom, & E. Anderson.* 321, 473, 127-C10 (1987)

Identification of RNO 43 and B335 as Two Highly Collimated Bipolar Flows Oriented Nearly in the Plane of the Sky. *Sylvie Cabrit, Paul F. Goldsmith, & Ronald L. Snell.* 334, 196, 156-D9 (1988)

CO Line Formation in Bipolar Flows. II. Decelerated Outflow Case and Summary of Results. *Sylvie Cabrit & Claude Bertout.* 348, 530, 9-C1 (1990)

Forbidden-Line Emission and Infrared Excesses in T Tauri Stars: Evidence for Accretion-driven Mass Loss? *Sylvie Cabrit, Suzan Edwards, Stephen E. Strom, & Karen M. Strom.* 354, 687, 84-G3 (1990)

CACCIANI, ALESSANDRO. On the Constancy of Intermediate-Degree *p*-Mode Frequencies during the Declining Phase of Solar Cycle 21. *Edward J. Rhodes, Jr., Martin F. Woodard, Alessandro Cacciani, Steven Tomczyk, Sylvain G. Korzennik, & Roger K. Ulrich.* 326, 479, 37-E4 (1988)

Depth and Latitude Dependence of the Solar Internal Angular Velocity. *Edward J. Rhodes, Jr., Alessandro Cacciani, Sylvain Korzennik, Steven Tomczyk, Roger K. Ulrich, & Martin F. Woodard.* 351, 687, 48-F1 (1990)

CACCIARI, CARLA. The Absolute Magnitudes of RR Lyrae Stars and the Age of the Galactic Globular Cluster System. *Allan Sandage & Carla Cacciari.* 350, 645, 34-B7 (1990)

CADEZ, V. M. Surface Waves in an Incompressible Fluid: Resonant Instability Due to Velocity Shear. *Joseph V. Hollweg, G. Yang, V. M. Cadez, & B. Gakovic.* 349, 335, 18-A7 (1990)

CADITZ, DAVID. Cosmological Parameters and Evolution of the Galaxy Luminosity Function. *David Caditz & Vahé Petrosian.* 337, L65, 32-A10 (1989)

Statistical and Physical Evolution of Quasi-stellar Objects. *David Caditz & Vahé Petrosian.* 357, 326, 116-F1 (1990)

CADMUS, ROBERT R., JR. Chromospheric Variability of M Giant Semiregular Variables. *Joel A. Eaton, Hollis R. Johnson, & Robert R. Cadmus, Jr.* 364, 259, 197-C4 (1990)

CAFFEE, M. W. Evidence in Meteorites for an Active Early Sun. *M. W. Caffee, C. M. Hohenberg, T. D. Swindle, & J. N. Goswami.* 313, L31, 21-C3 (1987)

CAHEN, S. Light Curves of Exploding Wolf-Rayet Stars. *R. Schaeffer, M. Cassé, & S. Cahen.* 316, L31, 56-C8 (1987)

Revisiting the Standard Solar Model. *S. Turck-Chièze, S. Cahen, M. Cassé, & C. Doom.* 335, 415, 175-C1 (1988)

CAHN, JULIUS H. The Pulsational Stability of Wolf-Rayet Stars. *Arthur N. Cox & Julius H. Cahn.* 326, 804, 42-D4 (1988)

CAILLAULT, JEAN-PIERRE. X-Ray–selected M Dwarfs and the Diffuse X-Ray Background. *Jean-Pierre Caillault, David J. Helfand, John A. Nousek, & Leo O. Takalo.* 304, 318, 57-D5 (1986)

Einstein Observations of the Soft X-Ray Background Close to the Galactic Plane. *Steven M. Kahn & Jean-Pierre Caillault.* 305, 526, 73-A10 (1986)

Simultaneous *EXOSAT* and VLA Observations of the Contact Binaries VW Cephei and XY Leonis: Quiescent Emission and a Flare on VW Cephei. *Osmi Vilhu, Jean-Pierre Caillault, & John Heise.* 330, 922, 102-E12 (1988)

Detection of a Dozen X-Ray–emitting Main-Sequence B6–A3 Stars in Orion. *Jean-Pierre Caillault & Saeid Zoonematkermani.* 338, L57, 49-C1 (1989)

A Search for T Tauri Stars in High-Latitude Molecular Clouds. I. *IRAS* Sources and CCD Imaging. *Loris Magnani, Jean-Pierre Caillault, & Lee Armus.* 357, 602, 120-B1 (1990)

CAIRNS, IVER H. On Evidence for Quasi-parallel and Quasi-perpendicular Acceleration in Supernova Remnants. *James A. Leckband, Steven R. Spangler, & Iver H. Cairns.* 338, 963, 45-G1 (1989)

CALANCHI, C. Detection of Extragalactic Absorption in the Ultraviolet Spectrum of the BL Lacertae Object PKS 2155–304. *L. Maraschi, J. C. Blades, C. Calanchi, E. G. Tanzi, & A. Treves.* 333, 660, 147-D1 (1988)

CALDWELL, D. O. Testing the Weakly Interacting, Massive Particle Explanation of the Solar Neutrino Puzzle with Conventional Silicon Detectors. *B. Sadoulet, J. Rich, M. Spiro, & D. O. Caldwell.* 324, L75, 18-D8 (1988)

CALDWELL, J. H_3^+ Fundamental Band in Jupiter's Auroral Zones at High Resolution from 2400 to 2900 Inverse Centimeters. *J.-P. Maillard, P. Drossart, J. K. G. Watson, S. J. Kim, & J. Caldwell.* 363, L37, 193-F1 (1990)

CALDWELL, JOHN A. R. A Photometric and Radial Velocity Study of Six Southern Cepheids. II. Binarity, Radii, Luminosities, and Masses. *Iain M. Coulson, John A. R. Caldwell, & Wolfgang P. Gieren.* 303, 273, 44-B1 (1986)

CALDWELL, NELSON. Dynamics of the Elliptical Galaxy NGC 7097 Measured from Gas and Stars. *Nelson Caldwell, Robert P. Kirshner, & Douglas O. Richstone.* 305, 136, 68-D10 (1986)

Ionized Gas and Radio Emission in the Barred Seyfert Galaxy NGC 5728. *Robert A. Schommer, Nelson Caldwell, A. S. Wilson, J. A. Baldwin, M. M. Phillips, T. B. Williams, & A. J. Turtle.* 324, 154, 2-F9 (1988)

Star Formation in NGC 5253. *Nelson Caldwell & M. M. Phillips.* 338, 789, 43-E12 (1989)

CALIFANO, FRANCESCO. Nonresonant Resistive Dissipation of Incompressible Magnetohydrodynamic Waves. *Francesco Califano, Claudio Chiuderi, & Giorgio Einaudi.* 365, 757, 217-F5 (1990)

CALLY, P. S. Turbulent Thermal Conduction in the Solar Transition Region. *P. S. Cally.* 355, 693, 97-B10 (1990)

CALOVINI, T. A. Transient Radio Emission from the X-Ray Nova ASM 2000+25. *R. M. Hjellming, T. A. Calovini, Xiao Hong Han, & F. A. Córdova.* 335, L75, 185-D10 (1988)

CALVANI, M. On Hydrodynamics of Radiatively Driven Winds. *R. Turolla, L. Nobili, & M. Calvani.* 303, 573, 48-F11 (1986)

CALVANI, MASSIMO. Radiatively Driven Winds in Wolf-Rayet Stars: A Unified Core-Atmosphere Model. *Roberto Turolla, Luciano Nobili, & Massimo Calvani.* 324, 899, 13-D1 (1988)

Implications of Arp 102B: Line Emission from an Accretion Disk? *Jack W. Sulentic, Massimo Calvani, Paolo Marziani, & Wei Zheng.* 355, L15, 92-B11 (1990)

Accretion Tori and Cones of Ionizing Radiation in Seyfert Galaxies. *José A. Acosta-Pulido, Ismael Pérez-Fournon, Massimo Calvani, & Andrew S. Wilson.* 365, 119, 207-E1 (1990)

CALVERT, W. Natural Radio Lasing at Jupiter. *W. Calvert, H. Leblanc, & G. R. A. Ellis.* 335, 976, 183-D6 (1988)

CALVET, N. Stellar Jets with Intrinsically Variable Sources. *A. C. Raga, J. Cantó, L. Binette, & N. Calvet.* 364, 601, 203-F1 (1990)

CALVET, NURIA. A Model for the Effects of Dust on the Spectra of Disk Galaxies. I. General Treatment. *Gustavo Bruzual A., Gladis Magris C., & Nuria Calvet.* 333, 673, 147-E1 (1988)

Winds from T Tauri Stars. I. Spherically Symmetric Models. *Lee Hartmann, Nuria Calvet, Eugene H. Avrett, & Rudolf Loeser.* 349, 168, 16-A8 (1990)

CALZOLARI, P. Measurements of the Cosmic Background Radiation Temperature at 6.3 Centimeters. *N. Mandolesi, P. Calzolari, S. Cortiglioni, G. Morigi, L. Danese, & G. De Zotti.* 310, 561, 140-A1 (1986)

CAMERINI, U. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler,*

T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane. 328, L9, 66-D10 (1988)

CAMERON, A. G. W. On the Behavior of Double Degenerate Binaries Associated with Type I Supernovae. *A. G. W. Cameron & Icko Iben, Jr.* 305, 228, 69-D14 (1986)

On Convection-induced Viscosity in Accretion Disks in Cataclysmic Variables. *John K. Cannizzo & A. G. W. Cameron.* 330, 327, 93-G1 (1988)

Dynamic Mass Exchange in Doubly Degenerate Binaries. I. 0.9 and 1.2 $M_\odot$ Stars. *W. Benz, R. L. Bowers, A. G. W. Cameron, & W. H. Press.* 348, 647, 10-F5 (1990)

CAMERON, L. M. 21 Centimeter Line Width Distances of Cluster Galaxies and the Value of H_0. *R. C. Kraan-Korteweg, L. M. Cameron, & G. A. Tammann.* 331, 620, 115-E10 (1988)

CAMERON, M. Observations of CO Isotopic Emission and the Far-Infrared Continuum of Centaurus A. *A. Eckart, M. Cameron, H. Rothermel, W. Wild, H. Zinnecker, G. Rydbeck, M. Olberg, & T. Wiklind.* 363, 451, 189-F11 (1990)

Molecular Absorption Lines toward the Nucleus of Centaurus A. *A. Eckart, M. Cameron, R. Genzel, J. M. Jackson, H. Rothermel, J. Stutzki, G. Rydbeck, & T. Wiklind.* 365, 522, 214-F7 (1990)

CAMERON, R. A. Rotation Measure Variations across the Lobes of Extragalactic Radio Sources. *G. V. Bicknell, R. A. Cameron, & R. A. Gingold.* 357, 373, 117-C1 (1990)

CAMPBELL, ALISON. Physical Conditions in H II Galaxies. *Alison Campbell.* 335, 644, 179-E7 (1988)

A Density-Gradient Model for the H II Galaxy I Zw 18. *Alison Campbell.* 362, 100, 170-D1 (1990)

CAMPBELL, BEL. Images of Star-forming Regions. I. Optical and Radio Morphology of the Bipolar Outflow Source GL 490. *Bel Campbell, S. E. Persson, & Peter J. McGregor.* 305, 336, 70-F14 (1986)

Radio Emission from the Nova-like Variable AC Cancri and the Symbiotic Variable AG Draconis. *Michael V. Torbett & Bel Campbell.* 318, L29, 85-C2 (1987)

High Spatial and Spectral Resolution Observations of the Optical Counterparts of GL 490 and S106/IRS 3. *S. E. Persson, Peter J. McGregor, & Bel Campbell.* 326, 339, 36-A1 (1988)

Radio Emission from Symbiotic Variables: CI Cygni, Z Andromedae, and EG Andromedae—Temporal Variability as Clues to the Nature of Symbiotics. *Michael V. Torbett & Bel Campbell.* 340, L73, 83-D1 (1989)

CAMPBELL, BRUCE: Strong Cyanogen Stars: The Result of Binary Coalescence? *Bruce Campbell.* 307, 750, 105-B11 (1986)

Spectroscopy of the λ7699 K I Line among Globular Cluster Giants. *Bruce Campbell & Graeme H. Smith.* 323, L69, 158-E11 (1987)

A Search for Substellar Companions to Solar-type Stars. *Bruce Campbell, G. A. H. Walker, & S. Yang.* 331, 902, 118-G1 (1988)

Yellow Giants: A New Class of Radial Velocity Variable? *G. A. H. Walker, S. Yang, Bruce Campbell, & Alan W. Irwin.* 343, L21, 125-D1 (1989)

CAMPBELL, D. B. Radar Observations of Comet IRAS-Araki-Alcock 1983d. *J. K. Harmon, D. B. Campbell, A. A. Hine, I. I. Shapiro, & B. G. Marsden.* 338, 1071, 47-A6 (1989)

Radar Observations of Comet Halley. *D. B. Campbell, J. K. Harmon, & I. I. Shapiro.* 338, 1094, 47-C1 (1989)

CAMPBELL, M. Far-Infrared and Radio Observations of DR 6, DR 7, and DR 22. *S. Odenwald, K. Shivanandan, M. Campbell, G. Fazio, P. Schwartz, & H. Moseley.* 306, 122, 82-E7 (1986)

CAMPBELL, M. F. High Spatial Resolution Far-Infrared Scans of W3(OH). *M. F. Campbell, D. F. Lester, P. M. Harvey, & M. Joy.* 345, 298, 152-G3 (1989)

CAMPBELL, ROBERT. The T Tauri Radio Sources. II. The Winds of T Tauri. *P. R. Schwartz, Theodore Simon, & Robert Campbell.* 303, 233, 43-F3 (1986)

CAMPBELL, W. R. The Influence of a Chromospheric Magnetic Field on the Solar *p*- and *f*-Modes. *W. R. Campbell & B. Roberts.* 338, 538, 39-D8 (1989)

CAMPINS, H. Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher, H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina.* 310, L61, 138-E4 (1986)

CAMPINS, HUMBERTO. The Bare Nucleus of Comet Neujmin 1. *Humberto Campins, Michael F. A'Hearn, & Lucy-Ann McFadden.* 316, 847, 61-D1 (1987)

An Investigation of the Nucleus and Coma of Comet P/Arend-Rigaux. *Robert L. Millis, Michael F. A'Hearn, & Humberto Campins.* 324, 1194, 16-F7 (1988)

The Identification of Crystalline Olivine in Cometary Silicates. *Humberto Campins & Eileen V. Ryan.* 341, 1059, 98-C8 (1989)

The Nucleus of Comet P/Tempel 2. *Michael F. A'Hearn, Humberto Campins, David G. Schleicher, & Robert L. Millis.* 347, 1155, 198-A4 (1989)

CANAL, RAMON. The Final Stages of Evolution of Cold, Mass-accreting White Dwarfs. *Margarita Hernanz, Jordi Isern, Ramon Canal, Javier Labay, & Robert Mochkovitch.* 324, 331, 4-G3 (1988)

On the Intrinsic Differences among Type Ia Supernovae. *Ramón Canal, Jordi Isern, & Rosario López.* 330, L113, 104-G12 (1988)

Can C+O White Dwarfs Form Neutron Stars? *Ramon Canal, Domingo García, Jordi Isern, & Javier Labay.* 356, L51, 110-C1 (1990)

CANDY, B. N. The Evolution of Radio Pulsars. *B. N. Candy & D. G. Blair.* 307, 535, 102-G1 (1986)

The Evolution of Radio Pulsars: Erratum. *B. N. Candy & D. G. Blair.* 324, 1221, 17-A12 (1988) (Orig. paper in 307, 535, 102-G1 (1986))

CANE, H. V. Two Classes of Solar Energetic Particle Events Associated with Impulsive and Long-Duration Soft X-Ray Flares. *H. V. Cane, R. E. McGuire, & T. T. von Rosenvinge.* 301, 448, 18-F9 (1986)

Solar Filament Eruptions and Energetic Particle Events. *S. W. Kahler, E. W. Cliver, H. V. Cane, R. E. McGuire, R. G. Stone, & N. R. Sheeley, Jr.* 302, 504, 33-F9 (1986)

Soft X-Ray Emissions, Meter-Wavelength Radio Bursts, and Particle Acceleration in Solar Flares. *H. V. Cane & D. V. Reames.* 325, 895, 30-C11 (1988)

Some Statistics of Solar Radio Bursts of Spectral Types II and IV. *H. V. Cane & D. V. Reames.* 325, 901, 30-D3 (1988)

Solar Flare Nuclear Gamma Rays and Interplanetary Proton Events. *E. W. Cliver, D. J. Forrest, H. V. Cane, D. V. Reames, R. E. McGuire, T. T. von Rosenvinge, S. R. Kane, & R. J. MacDowall.* 343, 953, 131-A1 (1989)

The Relationship between Energetic Particles and Flare Properties for Impulsive Solar Flares. *H. V. Cane & D. V. Reames.* 73, 253, 21-B7 (1990)

Energetic Particle Abundances in Solar Electron Events. *D. V. Reames, H. V. Cane, & T. T. von Rosenvinge.* 357, 259, 114-C6 (1990)

CANFIELD, E. Inverse Comptonization by One-dimensional Relativistic Electrons. *E. Canfield, W. M. Howard, & E. P. Liang.* 323, 565, 161-A1 (1987)

CANFIELD, RICHARD C. The Role of Nonclassical Electron Transport in the Lower Solar Transition Region. *Stanley P. Owocki & Richard C. Canfield.* 300, 420, 5-E14 (1986)

The Solar Flare Extreme Ultraviolet to Hard X-Ray Ratio. *A. N. McClymont & Richard C. Canfield.* 305, 936, 79-C1 (1986)

Beam-induced Pressure Gradients in the Early Phase of Proton-heated Solar Flares. *David H. Tamres, Richard C. Canfield, & A. N. McClymont.* 309, 409, 124-C14 (1986)

The Hα Spectral Counterparts of Solar Hard X-Rays Microflares. *Richard C. Canfield & Thomas R. Metcalf.* 321, 586, 128-E2 (1987)

Impulsive Hα Diagnostics of Electron-Beam–heated Solar Flare Model Chromospheres. *Richard C. Canfield & Kenneth G. Gayley.* 322, 999, 150-G10 (1987)

Explosive Plasma Flows in a Solar Flare. *Dominic M. Zarro, Richard C. Canfield, Keith T. Strong, & Thomas R. Metcalf.* 324, 582, 7-E12 (1988)

Hα Redshifts as a Diagnostic of Solar Flare Heating. *Dominic M. Zarro & Richard C. Canfield.* 338, L33, 40-E6 (1989)

On the Stability of Proton Beams against Resonant Scattering by Alfvén Waves in Solar Flare Loops. *David H. Tamres, D. B. Melrose, & Richard C. Canfield.* 342, 576, 107-G1 (1989)

Momentum Balance in Four Solar Flares. *Richard C. Canfield, Dominic M. Zarro, Thomas R. Metcalf, & James R. Lemen.* 348, 333, 5-B7 (1990)

Flare Heating and Ionization of the Low Solar Chromosphere. I. Inversion Methods for Mg I $\lambda\lambda$4571 and 5173. *Thomas R. Metcalf,*

Richard C. Canfield, Eugene H. Avrett, & Frederic T. Metcalf. 350, 463, 30-F1 (1990)

Hα Spectra of Dynamic Chromospheric Processes in Five Well-observed X-Ray Flares. *Richard C. Canfield, Alan L. Kiplinger, Matthew J. Penn, & Jean-Pierre Wülser.* 363, 318, 186-B1 (1990)

Flare Heating and Ionization of the Low Solar Chromosphere. II. Observations of Five Solar Flares. *Thomas R. Metcalf, Richard C. Canfield, & Julia L. R. Saba.* 365, 391, 211-C1 (1990)

CANIZARES, C. R. An X-Ray Survey of Hot White Dwarf Stars: Evidence for a n(He)/n(H) versus $T_{\rm eff}$ Correlation. *R. Petre, H. L. Shipman, & C. R. Canizares.* 304, 356, 57-G1 (1986)

High-Resolution X-Ray Spectroscopic Evidence on Nonequlibrium Conditions in the Cygnus Loop. *P. W. Vedder, C. R. Canizares, T. H. Markert, & A. K. Pradhan.* 307, 269, 98-A3 (1986)

The X-Ray Surface Brightness Distribution and Spectral Properties of Six Early-Type Galaxies. *G. Trinchieri, G. Fabbiano, & C. R. Canizares.* 310, 637, 140-G9 (1986)

Soft X-Ray Properties of Seyfert Galaxies. I. Spectra. *J. S. Kruper, C. M. Urry, & C. R. Canizares.* 74, 347, 35-D1 (1990)

CANIZARES, CLAUDE R. High-Resolution X-Ray Spectroscopy of the Crab Nebula and the Oxygen Abundance of the Interstellar Medium. *Mark L. Schattenburg & Claude R. Canizares.* 301, 759, 23-G11 (1986)

X-Ray Studies of Galactic and Intergalactic Gas in the Pegasus I Cluster. *Claude R. Canizares, Megan E. Donahue, Ginevra Trinchieri, Gordon C. Stewart, & Thomas A. McGlynn.* 304, 312, 57-C13 (1986)

Properties of the X-Ray Emitting Gas in Early-Type Galaxies. *Claude R. Canizares, Giuseppina Fabbiano, & Ginevra Trinchieri.* 312, 503, 8-D5 (1987)

Models of Steady State Cooling Flows in Elliptical Galaxies. *Peter W. Vedder, Jeffrey J. Trester, & Claude R. Canizares.* 332, 725, 132-C3 (1988)

Probabilities for Gravitational Lensing by Point Masses in a Locally Inhomogeneous Universe. *Jeffrey A. Isaacson & Claude R. Canizares.* 336, 544, 9-C6 (1989)

The X-Ray Spectra of High-Redshift Quasars. *Claude R. Canizares & Julia L. White.* 339, 27, 50-D1 (1989)

The Nature of Red Active Galactic Nuclei in X-Ray Selected Samples. *John S. Kruper & Claude R. Canizares.* 343, 66, 118-G8 (1989)

The Effect of Hot Gas in Early-Type Galaxies on the Cosmic Microwave Background. *Jeffrey J. Trester & Claude R. Canizares.* 347, 605, 190-F7 (1989)

High-Resolution X-Ray Spectroscopy of Four Active Galaxies: Probing the Intercloud Medium. *Kenneth S. K. Lum, Claude R. Canizares, Thomas H. Markert, & Keith A. Arnaud.* 358, 139, 123-F11 (1990)

CANNIZZO, J. K. Dwarf Nova Burst Asymmetry and the Physics of Accretion Disks. *J. K. Cannizzo, J. C. Wheeler, & R. S. Polidan.* 301, 634, 22-E8 (1986)

Mass Transfer in Cataclysmic Variables: Clues from the Dwarf Nova Period Distribution. *A. W. Shafter, J. C. Wheeler, & J. K. Cannizzo.* 305, 261, 69-G5 (1986)

The Accretion Disk Limit Cycle Mechanism in GK Persei. *J. K. Cannizzo & S. J. Kenyon.* 309, L43, 125-F5 (1986)

CANNIZZO, JOHN K. A Linear Thermal Stability Analysis for the Vertical Structure of Alpha Model Accretion Disks. *Hideyuki Saio, John K. Cannizzo, & J. Craig Wheeler.* 316, 716, 60-A1 (1987)

The Spectral Evolution of Dwarf Nova Outbursts. *John K. Cannizzo & Scott J. Kenyon.* 320, 319, 111-E6 (1987)

A New Angular Momentum Loss Mechanism for Cataclysmic Variables. *John K. Cannizzo & Ralph E. Pudritz.* 327, 840, 57-G3 (1988)

On Convection-induced Viscosity in Accretion Disks in Cataclysmic Variables. *John K. Cannizzo & A. G. W. Cameron.* 330, 327, 93-G1 (1988)

On the Outburst Recurrence Time for the Accretion Disk Limit Cycle Mechanism in Dwarf Novae. *John K. Cannizzo, Allen W. Shafter, & J. Craig Wheeler.* 333, 227, 140-E9 (1988)

Chaos in SS Cygni? *John K. Cannizzo & D. A. Goodings.* 334, L31, 161-D1 (1988)

The Disk Accretion of a Tidally Disrupted Star onto a Massive Black Hole. *John K. Cannizzo, Hyung Mok Lee, & Jeremy Goodman.* 351, 38, 38-E1 (1990)

A Search for Chaotic Behavior in the Light Curves of Three Long-Period Variables. *John K. Cannizzo, D. A. Goodings, & Janet A. Mattei.* 357, 235, 114-A6 (1990)

CANTERNA, R. Infrared Speckle Observations of the Nucleus of M31. *E. J. Spillar, R. Canterna, K. H. Carels, J. A. Benson, & H. M. Dyck.* 349, L13, 19-B11 (1990)

CANTÓ, J. The Double Radio Source Associated with L1551 IRS 5: Binary System or Ionized Circumstellar Torus? *L. F. Rodríguez, J. Cantó, J. M. Torrelles, & P. T. P. Ho.* 301, L25, 20-C10 (1986)

OH Outflows in Star-forming Regions. *I. F. Mirabel, A. Ruiz, L. F. Rodríguez, & J. Cantó.* 318, 729, 89-A1 (1987)

Are the High-Velocity Molecular Flows Really Clumpy? *J. Cantó, L. F. Rodríguez, & G. Anglada.* 321, 877, 134-B8 (1987)

Collimation of Stellar Winds by Nonadiabatic De Laval Nozzles. *A. C. Raga & J. Cantó.* 344, 404, 138-A5 (1989)

Steady, Partially Ionized Stellar Jets. *A. C. Raga, L. Binette, & J. Cantó.* 360, 612, 153-G1 (1990)

Stellar Jets with Intrinsically Variable Sources. *A. C. Raga, J. Cantó, L. Binette, & N. Calvet.* 364, 601, 203-F1 (1990)

VLA Observations of High-Velocity H I Associated with the Herbig-Haro Objects 7–11. *L. F. Rodríguez, S. Lizano, J. Cantó, V. Escalante, & I. F. Mirabel.* 365, 261, 209-F5 (1990)

The Exciting Source of the Bipolar Outflow in L1448. *S. Curiel, J. C. Raymond, L. F. Rodríguez, J. Cantó, & J. M. Moran.* 365, L85, 219-F5 (1990)

CANTÓ, JORGE. The Kinematic Temperature Gradient and the Structure of a Thin Molecular Disk in Cepheus A. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 305, 721, 76-F10 (1986)

Ammonia Observations of Regions with Molecular Outflows. *José M. Torrelles, Paul T. P. Ho, James M. Moran, Luis F. Rodríguez, & Jorge Cantó.* 307, 787, 105-E9 (1986)

Interaction of the High-Density Gas with the Bipolar Outflow in Cepheus A. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & James M. Moran.* 321, 884, 134-C1 (1987)

The Bipolar H II Region NGC 6334A. *Luis F. Rodríguez, Jorge Cantó, & James M. Moran.* 333, 801, 149-B1 (1988)

VLA Observations of the High-Velocity Bipolar OH Absorption in L1551. *Luis F. Rodríguez, Jorge Cantó, I. Félix Mirabel, & Abraham Ruiz.* 337, 712, 27-G1 (1989)

Ammonia Observations of Outflow Regions. *Guillem Anglada, Luis F. Rodríguez, José M. Torrelles, Robert Estalella, Paul T. P. Ho, Jorge Cantó, Rosario López, & Lourdes Verdes-Montenegro.* 341, 208, 86-E1 (1989)

NH_3 Observations of the AFGL 2591 Region: A Possible Cavity in the Molecular Cloud. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 343, 222, 121-A5 (1989)

Further Studies of the Role of Dense Molecular Clouds around Outflow Sources. *Lourdes Verdes-Montenegro, José M. Torrelles, Luis F. Rodríguez, Guillem Anglada, Rosario López, Robert Estalella, Jorge Cantó, & Paul T. P. Ho.* 346, 193, 168-E1 (1989)

VLA Observations of Ammonia and Continuum in Regions with High-Velocity Gaseous Outflows. II. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & Lourdes Verdes-Montenegro.* 346, 756, 176-F8 (1989)

Monoceros R2: Interactions of a Molecular Cloud Core with a Stellar Wind? *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 349, 529, 21-G8 (1990)

VLA Observations of the Herbig-Haro 1-2 System. *Luis F. Rodríguez, Paul T. P. Ho, José M. Torrelles, Salvador Curiel, & Jorge Cantó.* 352, 645, 59-A11 (1990)

CANZIAN, B. J. 0850+581: Another Superluminal Radio Source. *P. D. Barthel, T. J. Pearson, A. C. S. Readhead, & B. J. Canzian.* 310, L7, 138-A10 (1986)

CANZIAN, BLAISE. The Molecular Gas Bar in NGC 253. *Blaise Canzian, Lee G. Mundy, & Nicholas Z. Scoville.* 333, 157, 139-F7 (1988)

CAPACCIOLI, MASSIMO. Distances of the Virgo and Coma Clusters of Galaxies through Novae and Supernovae. *Massimo Capaccioli,*

Enrico Cappellaro, Massimo Della Valle, Mauro D'Onofrio, Leonida Rosino, & Massimo Turatto. 350, 110, 26-D1 (1990)

The Deep Luminosity Function of the Globular Cluster M30. *Giampaolo Piotto, Ivan R. King, Massimo Capaccioli, Sergio Ortolani, & S. Djorgovski.* 350, 662, 34-C14 (1990)

Distance of the Large Magellanic Cloud through the Maximum Magnitude versus Rate of Decline Relation for Novae. *Massimo Capaccioli, Massimo Della Valle, Mauro D'Onofrio, & Leonida Rosino.* 360, 63, 145-G4 (1990)

CAPPALLO, R. J. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

CAPPELLARO, E. Type Ib Supernovae 1983n and 1985f: Oxygen-rich Late Time Spectra. *C. M. Gaskell, E. Cappellaro, H. L. Dinerstein, D. R. Garnett, R. P. Harkness, & J. C. Wheeler.* 306, L77, 93-G11 (1986)

CAPPELLARO, ENRICO. Padova 1: A Heavily Obscured Seyfert Galaxy in Aquila. *Franco Sabbadin, Enrico Cappellaro, Luciano Salvadori, & Massimo Turatto.* 347, L5, 189-B5 (1989)

Distances of the Virgo and Coma Clusters of Galaxies through Novae and Supernovae. *Massimo Capaccioli, Enrico Cappellaro, Massimo Della Valle, Mauro D'Onofrio, Leonida Rosino, & Massimo Turatto.* 350, 110, 26-D1 (1990)

The Optical Variability of the Quasar 3C 446. *Cesare Barbieri, Roberto Vio, Enrico Cappellaro, & Massimo Turatto.* 359, 63, 134-G1 (1990)

CAPPS, R. Infrared Reflection Nebulae in Orion Molecular Cloud 2. *Yvonne Pendleton, M. W. Werner, R. Capps, & D. Lester.* 311, 360, 150-A13 (1986)

CAPPS, R. W. Infrared Array Imaging and Spectrophotometry of the Nuclear Region of the "Hot Spot" Galaxy NGC 2903. *D. A. Simons, D. L. DePoy, E. E. Becklin, R. W. Capps, K.-W. Hodapp, & D. N. B. Hall.* 335, 126, 171-F9 (1988)

CAPPS, RICHARD W. Near-Infrared Imaging of Lynds 1551 IRS 5. *Klaus-Werner Hodapp, Richard W. Capps, Stephen E. Strom, Luis Salas, & Gary L. Grasdalen.* 335, 814, 181-E8 (1988)

CAPUTO, F. The "Red Giant Clock" as an Indicator for the Efficiency of Central Mixing in Horizontal-Branch Stars. *F. Caputo, V. Castellani, A. Chieffi, L. Pulone, & A. Tornambè, Jr.* 340, 241, 70-A10 (1989)

CAPUZZO-DOLCETTA, R. Evolutionary Population Synthesis: An Application to Magellanic Cloud Clusters. *P. Battinelli & R. Capuzzo-Dolcetta.* 347, 794, 193-C1 (1989)

Evolutionary Population Synthesis: An Application to Magellanic Cloud Clusters: Erratum. *P. Battinelli & R. Capuzzo-Dolcetta.* 360, 313, 148-G11 (1990) (Orig. paper in 347, 794, 193-C1 (1989))

CARAVEO, P. A. *EXOSAT* and *Einstein* X-Ray Observations of the SNR 1E 1149.4–6209 in Crux: A Unified Picture? *G. F. Bignami, P. A. Caraveo, A. Goldwurm, S. Mereghetti, & G. G. C. Palumbo.* 302, 606, 37-C2 (1986)

EXOSAT and *Einstein* Observations of the X-Ray Pulsar 4U 1145–619. *S. Mereghetti, G. F. Bignami, P. A. Caraveo, & A. Goldwurm.* 312, 755, 11-B11 (1987)

A Deep Optical Study of the Field of 1E 0630+178. *G. F. Bignami, P. A. Caraveo, J. A. Paul, L. Salotti, & L. Vigroux.* 319, 358, 97-A1 (1987)

Diffuse *Einstein* X-Ray Emission from the Region of RCW 49, a Bright Southern Emission Nebula. *A. Goldwurm, P. A. Caraveo, & G. F. Bignami.* 322, 349, 141-E12 (1987)

Search for Linear Polarization in Gamma-Ray Sources: Possible Evidence for the Vela Pulsar. *P. A. Caraveo, G. F. Bignami, I. Mitrofanov, & G. Vacanti.* 327, 203, 49-B11 (1988)

CARAVEO, PATRIZIA A. On the Birthplace of PSR 0833–45: Or, Is the Vela Pulsar Associated with the Vela SNR? *Giovanni F. Bignami & Patrizia A. Caraveo.* 325, L5, 25-A8 (1988)

A New 60 Millisecond X-Ray Pulsar and Its Massive Early-Type Companion. *Patrizia A. Caraveo, Giovanni F. Bignami, & Andrea Goldwurm.* 338, 338, 37-B9 (1989)

CARDELLI, JASON A. Visual Absorption Lines in Dark Clouds: Highly Reddened Stars near the Center of the Ophiuchus Molecular Cloud. *Jason A. Cardelli & George Wallerstein.* 302, 492, 33-E11 (1986)

Two Lines of Sight with Exceedingly Anomalous Ultraviolet Interstellar Extinction. *Jason A. Cardelli & Blair D. Savage.* 325, 864, 30-A8 (1988)

The Determination of Ultraviolet Extinction from the Optical and Near-Infrared. *Jason A. Cardelli, Geoffrey C. Clayton, & John S. Mathis.* 329, L33, 81-C11 (1988)

Total-to-Selective Extinction and the Formation of Molecules in Diffuse Interstellar Clouds. *Jason A. Cardelli.* 335, 177, 172-D5 (1988)

The Relationship between Infrared, Optical, and Ultraviolet Extinction. *Jason A. Cardelli, Geoffrey C. Clayton, & John S. Mathis.* 345, 245, 152-B9 (1989)

The Detection of an IR Excess toward the Globular Cluster RV Tauri Variable M28 V17. *Mark A. Nook & Jason A. Cardelli.* 346, L29, 173-D1 (1989)

Molecules toward HD 62542: A High-Density, Peculiar Extinction Sight Line in the Gum Nebula Complex. *Jason A. Cardelli, Nicholas B. Suntzeff, Richard J. Edgar, & Blair D. Savage.* 362, 551, 177-E9 (1990)

Scattered Light in the Echelle Modes of the Goddard High-Resolution Spectrograph Aboard the *Hubble Space Telescope*. I. Analysis of Prelaunch Calibration Data. *Jason A. Cardelli, Dennis C. Ebbets, & Blair D. Savage.* 365, 789, 218-B1 (1990)

CARDON, B. L. Absolute Oscillator Strengths for 108 Lines of Si I between 163 and 410 Nanometers. *Peter L. Smith, M. C. E. Huber, G. P. Tozzi, H. E. Griesinger, B. L. Cardon, & G. G. Lombardi.* 322, 573, 144-B12 (1987)

CARELS, K. Speckle Observations of the Central Region of NGC 4151. *G. R. Ayers, J. Benson, K. Carels, H. M. Dyck, & E. Spillar.* 360, 471, 152-B9 (1990)

CARELS, K. H. Infrared Speckle Observations of the Nucleus of M31. *E. J. Spillar, R. Canterna, K. H. Carels, J. A. Benson, & H. M. Dyck.* 349, L13, 19-B11 (1990)

CARGILL, P. The Radio Signatures of a Slow Coronal Mass Ejection: Electron Acceleration at Slow-Mode Shocks? *M. Kundu, N. Gopalswamy, S. White, P. Cargill, E. J. Schmahl, & E. Hildner.* 347, 505, 188-C3 (1989)

CARGILL, P. J. The Energy Balance of Plasmoids in the Solar Atmosphere. *P. J. Cargill & G. W. Pneuman.* 307, 820, 106-A1 (1986)

The Magnetohydrodynamic Stability of Coronal Arcades. III. Sheared Equilibrium Fields. *P. J. Cargill, A. W. Hood, & S. Migliuolo.* 309, 402, 124-C7 (1986)

A Mechanism for Strong Shock Electron Heating in Supernova Remnants. *P. J. Cargill & K. Papadopoulos.* 329, L29, 81-C7 (1988)

CARICO, D. P. The Stellar Bar in NGC 1068. *N. Z. Scoville, K. Matthews, D. P. Carico, & D. B. Sanders.* 327, L61, 61-C7 (1988)

The Double Nucleus of Arp 220 Unveiled. *James R. Graham, D. P. Carico, K. Matthews, G. Neugebauer, B. T. Soifer, & T. D. Wilson.* 354, L5, 80-A12 (1990)

CARICO, DAVID P. The Near-Infrared Morphology of Ultraluminous Infrared Galaxies. *David P. Carico, James R. Graham, K. Matthews, T. D. Wilson, B. T. Soifer, G. Neugebauer, & D. B. Sanders.* 349, L39, 24-B1 (1990)

CARIGNAN, CLAUDE. DDO 154: A "Dark" Galaxy? *Claude Carignan & Kenneth C. Freeman.* 332, L33, 129-D11 (1988)
Optical and H I Studies of the "Gas-rich" Dwarf Irregular Galaxy DDO 154. *Claude Carignan & Sylvie Beaulieu.* 347, 760, 192-G1 (1989)
CARILLI, C. L. The Faraday Rotation of Cygnus A: Magnetic Fields in Cluster Gas. *J. W. Dreher, C. L. Carilli, & R. A. Perley.* 316, 611, 58-F7 (1987)
Discovery of Low-Redshift, Neutral Hydrogen Absorption in the Radio Spectrum of PKS 2020−370. *C. L. Carilli & J. H. van Gorkom.* 319, 683, 102-D8 (1987)
Discovery of the Bow Shock of Cygnus A. *C. L. Carilli, R. A. Perley, & J. W. Dreher.* 334, L73, 169-C9 (1988)
CARINI, MICHAEL T. A Study of the Eclipsing Cataclysmic Variable Lanning 90. *Peter M. Garnavich, Paula Szkody, Mario Mateo, Laurie Feinswog, John Booth, Bret Goodrich, H. Richard Miller, Michael T. Carini, & John W. Wilson.* 365, 696, 216-G13 (1990)
CARLAW, VIVETTE A. Finite Source Depolarization Factors for Circumstellar Scattering. *John C. Brown, Vivette A. Carlaw, & Joseph P. Cassinelli.* 344, 341, 137-C3 (1989)
CARLBERG, R. G. Formation of Elliptical Galaxies and Massive Halos. *R. G. Carlberg, George Lake, & C. A. Norman.* 300, L1, 7-A4 (1986)
The Phase Space Density in Elliptical Galaxies. *R. G. Carlberg.* 310, 593, 140-C9 (1986)
The Vertical Structure of Galactic Disks. *R. G. Carlberg.* 322, 59, 138-E9 (1987)
N-Body Experiments with Gas in a Cosmological Model. *R. G. Carlberg.* 324, 664, 10-E11 (1988)
Galaxy Formation and Clustering in an *N*-Body Experiment. *R. G. Carlberg.* 332, 26, 123-C10 (1988)
Spiral Wave Viscosity in Self-gravitating Accretion Disks. *D. M. Anthony & R. G. Carlberg.* 332, 637, 131-C1 (1988)
Mergers and Bias in a Cold Dark Matter Cosmology. *R. G. Carlberg & H. M. P. Couchman.* 340, 47, 67-E7 (1989)
Sinking Satellites and the Halo Velocity Ellipsoid. *R. G. Carlberg & F. D. A. Hartwick.* 345, 196, 151-E3 (1989)
Quasar Evolution via Galaxy Mergers. *R. G. Carlberg.* 350, 505, 32-E5 (1990)
Cosmological Velocity Bias. *R. G. Carlberg, H. M. P. Couchman, & P. A. Thomas.* 352, L29, 61-B1 (1990)
Mergers as an Ω Estimator. *R. G. Carlberg.* 359, L1, 138-A7 (1990)
CARLETON, N. P. The Highly Obscured Nucleus of 3C 219. *G. Fabbiano, S. P. Willner, N. P. Carleton, & M. Elvis.* 304, L37, 66-B1 (1986)
The Continuum of Type 1 Seyfert Galaxies. I. A Single Form Modified by the Effects of Dust. *Martin Ward, Martin Elvis, G. Fabbiano, N. P. Carleton, S. P. Willner, & A. Lawrence.* 315, 74, 40-F12 (1987)
The Continuum of Type 1 Seyfert Galaxies. II. Separating Thermal and Nonthermal Components. *N. P. Carleton, Martin Elvis, G. Fabbiano, S. P. Willner, A. Lawrence, & Martin Ward.* 318, 595, 87-D6 (1987)
Speckle Imaging of NGC 1068 and NGC 4151 in the [O III] 5007 Å Line and Nearby Continuum. *Steven M. Ebstein, N. P. Carleton, & Costas Papaliolios.* 336, 103, 2-C4 (1989)
Probing Intermediate Seyfert Galaxies by Paβ Spectroscopy. *Hans-Walter Rix, N. P. Carleton, George Rieke, & Marcia Rieke.* 363, 480, 190-B5 (1990)
CARLSON, BARBARA E. The Role of Aqueous Chemistry in Determining the Composition and Cloud Structure of the Upper Troposphere of Uranus. *Barbara E. Carlson, Michael J. Prather, & William B. Rossow.* 321, L97, 130-B3 (1987)
Cloud Chemistry on Jupiter. *Barbara E. Carlson, Michael J. Prather, & William B. Rossow.* 322, 559, 144-A11 (1987)
CARLSON, GEORGE. Periods and Light Curves of 16 Cepheid Variables in IC 1613 Not Completed by Baade. *George Carlson & Allan Sandage.* 352, 587, 58-C8 (1990)
CARLSSON, M. A New Sunspot Umbral Model and Its Variation with the Solar Cycle. *P. Maltby, E. H. Avrett, M. Carlsson, O. Kjeldseth-Moe, R. L. Kurucz, & R. Loeser.* 306, 284, 84-D9 (1986)
Stokes Profile Analysis and Vector Magnetic Fields. III. Extended Temperature Minima of Sunspot Umbrae as Inferred from Stokes Profiles of Mg I λ4571. *B. W. Lites, A. Skumanich, D. E. Rees, G. A. Murphy, & M. Carlsson.* 318, 930, 91-B6 (1987)
CARLSTROM, J. E. VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)
Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)
Millimeter Continuum Observations of a Massive Protostellar Core in Sagittarius B2. *J. E. Carlstrom & S. N. Vogel.* 337, 408, 22-D3 (1989)
Discovery of New 2 Micron Sources in ρ Ophiuchi. *M. Barsony, Michael G. Burton, A. P. G. Russell, J. E. Carlstrom, & R. Garden.* 346, L93, 181-E4 (1989)
Velocity Structure of the Orion–IRc2 SiO Maser: Evidence for an 80 AU Diameter Circumstellar Disk. *R. L. Plambeck, M. C. H. Wright, & J. E. Carlstrom.* 348, L65, 13-C7 (1990)
CARLSTROM, JOHN E. Observations of the Dense Gas in the IRAS 16293−2422 Outflow System. *Christopher K. Walker, John E. Carlstrom, John H. Bieging, Charles J. Lada, & Erick T. Young.* 364, 173, 196-B12 (1990)
CARNEY, BRUCE W. The Baade-Wesselink Method and the Distances to RR Lyrae Stars. II. The Field Star X Arietis. *Rodney V. Jones, Bruce W. Carney, David W. Latham, & Robert L. Kurucz.* 312, 254, 3-F5 (1987)
The Baade-Wesselink Method and the Distances to RR Lyrae Stars. III. The Field Star SW Draconis. *Rodney V. Jones, Bruce W. Carney, David W. Latham, & Robert L. Kurucz.* 314, 605, 36-B10 (1987)
The Baade-Wesselink Method and the Distances to RR Lyrae Stars. V. The Field Star DH Pegasi. *Rodney V. Jones, Bruce W. Carney, & David W. Latham.* 326, 312, 35-E9 (1988)
The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VI. The Field Stars RS Bootis, TW Herculis, VY Serpentis, and UU Virginis, and the Absolute Magnitudes of RR Lyrae Stars. *Rodney V. Jones, Bruce W. Carney, & David W. Latham.* 332, 206, 125-D1 (1988)
Relative Abundance Determinations in Extremely Metal-poor Giants. I. Photometry and Equivalent Width Measurements. *Ruth C. Peterson & Bruce W. Carney.* 347, 266, 185-D1 (1989)
Relative Abundance Determinations in Extremely Metal Poor Giants. II. Transition Probabilities and the Abundance Determinations. *Ruth C. Peterson, Robert L. Kurucz, & Bruce W. Carney.* 350, 173, 27-C1 (1990)
CAROLLO, C. M. MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)
CARONE, T. E. *Voyager* and *IUE* Observations of 3C 273: Detection of Possible Lyman Continuum Absorption in a Nearby (z = 0.158) Quasar. *G. A. Reichert, R. S. Polidan, C.-C. Wu, & T. E. Carone.* 325, 671, 28-A1 (1988)
CAROUBALOS, C. Radio Evidence for a Magnetic Mirror Effect on Beams of Subrelativistic Electrons in the Solar Corona. *C. Caroubalos, M. Poquérusse, J.-L. Bourgeret, & R. Crépel.* 319, 503, 98-F7 (1987)
CARPENTER, JOHN M. Structure in Small Molecular Clouds: Pedestals and Clumping. *Loris Magnani, John M. Carpenter, Leo Blitz, Namir E. Kassim, & Biman B. Nath.* 73, 747, 28-D3 (1990)
Molecular Clouds Associated with Luminous Far-Infrared Sources in the Outer Galaxy. *John M. Carpenter, Ronald L. Snell, & F. Peter Schloerb.* 362, 147, 171-A1 (1990)
CARPENTER, K. G. Evidence for a Cool Wind from the K2 Dwarf in the Detached Binary V471 Tauri. *D. J. Mullan, E. M. Sion, F. C. Bruhweiler, & K. G. Carpenter.* 339, L33, 58-D1 (1989)
CARPENTER, KEN. Discovery of a Cool Expanding Shell at −1200 Kilometers per Second around V471 Tauri. *Edward M. Sion, Fred C. Bruhweiler, Dermott Mullan, & Ken Carpenter.* 341, L17, 91-B9 (1989)

CARPENTER, KENNETH G. Ultraviolet and Infrared Observations of Stars with "Quenched" Chromospheres and the Nature of Mass Loss. *Robert E. Stencel, Kenneth G. Carpenter, & Wendy Hagen.* 308, 859, 118-C10 (1986)

The Ultraviolet Spectrum of Noncoronal Late-Type Stars: The Gamma Crucis (M3.4 III) Reference Spectrum. *Kenneth G. Carpenter, Joseph E. Pesce, Robert E. Stencel, Alexander Brown, Sveneric Johansson, & Robert F. Wing.* 68, 345, 28-B7 (1988)

CARR, B. J. Spectrum and Anisotropy of the Cosmic Infrared Background. *J. R. Bond, B. J. Carr, & C. J. Hogan.* 306, 428, 89-B9 (1986)

Dark Clusters in Galactic Halos? *B. J. Carr & C. G. Lacey.* 316, 23, 50-C6 (1987)

Self-similar Perturbations of a Friedmann Universe. *B. J. Carr & A. Yahil.* 360, 330, 150-D3 (1990)

CARR, J. Properties of the Gas and Stellar Content of the Superluminous Galaxy NGC 6240. *D. F. Lester, P. M. Harvey, & J. Carr.* 329, 641, 83-F6 (1988)

CARR, J. S. Discovery of Interstellar Acetylene. *J. H. Lacy, Neal J. Evans II, J. M. Achtermann, D. E. Bruce, J. F. Arens, & J. S. Carr.* 342, L43, 109-D7 (1989)

A Near-Infrared Spectroscopic Study of the Starburst Core of M82. *D. F. Lester, J. S. Carr, M. Joy, & N. Gaffney.* 352, 544, 57-G3 (1990)

CARR, JOHN S. The 2 Micron Spectrum of L1551 IRS 5. *John S. Carr, P. M. Harvey, & D. F. Lester.* 321, L71, 129-G7 (1987)

A Study of Clumping in the Cepheus OB 3 Molecular Cloud. *John S. Carr.* 323, 170, 155-A1 (1987)

Detection of Fluorescent Molecular Hydrogen Emission in the Planetary Nebula Hubble 12. *Harriet L. Dinerstein, Daniel F. Lester, John S. Carr, & Paul M. Harvey.* 327, L27, 53-C5 (1988)

Near-Infrared CO Emission in Young Stellar Objects. *John S. Carr.* 345, 522, 155-E7 (1989)

CARRAL, PATRICIA. 15 GHz Compact Structure in Galactic Nuclei. *Patricia Carral, Jean L. Turner, & Paul T. P. Ho.* 362, 434, 175-G8 (1990)

CARRAMIÑANA, A. 300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)

New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989)).

CARRARO, C. Dynamic Screening of Thermonuclear Reactions. *C. Carraro, A. Schäfer, & S. E. Koonin.* 331, 565, 112-F1 (1988)

CARRASCO, L. X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, N. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

CARRASCO, LUIS. A Study of the Stellar Population in the Lynds 1641 Dark Cloud. I. The *IRAS* Catalog Sources. *Karen M. Strom, Goeffrey Newton, Stephen E. Strom, Robert L. Seaman, Luis Carrasco, Irene Cruz-Gonzalez, Alfonso Serrano, & Gary L. Grasdalen.* 71, 183, 37-C2 (1989)

A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)

CARRIGAN, B. J. Positron Annihilation at the Galactic Center. *B. J. Carrigan & J. I. Katz.* 323, 557, 160-G2 (1987)

CARRILLI, CHRIS L. The Second MIT–Green Bank 5 GHz Survey. *Glen I. Langston, Michael B. Heflin, Sam R. Conner, Joseph Lehár, Chris L. Carrilli, & Bernard F. Burke.* 72, 621, 11-A1 (1990)

CARROLL, B. W. Oscillation Spectra of Neutron Stars with Strong Magnetic Fields. *B. W. Carroll, E. G. Zweibel, C. J. Hansen, P. N. McDermott, M. P. Savedoff, J. H. Thomas, & H. M. Van Horn.* 305, 767, 77-C9 (1986)

CARROLL, J. J. Accelerated Decay of $^{180}Ta^{m}$ and ^{176}Lu in Stellar Interiors through (γ,γ') Reactions. *J. J. Carroll, J. A. Anderson, J. W. Glesener, C. D. Eberhard, & D. B. Collins.* 344, 454, 138-E8 (1989)

CARROLL, L. C. Epsilon Aurigae: Polarization, Light Curves, and Geometry of the 1982–1984 Eclipse. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, T. B. Ake, T. Simon, & G. W. Collins.* 300, L11, 7-B2 (1986)

Variable Polarization and Activity in Arcturus. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, & D. K. Duncan.* 301, L35, 20-D7 (1986)

SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, T. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)

CARSON, T. RICHARD. Classical Bump Cepheids: Reconciliation of Theory with Observations. *T. Richard Carson & Richard B. Stothers.* 328, 196, 64-B5 (1988)

CARSWELL, R. F. High-Redshift QSO Absorbing Clouds and the Background Ionizing Source. *R. F. Carswell, J. K. Webb, J. A. Baldwin, & B. Atwood.* 319, 709, 102-F13 (1987)

Pressure-confined Lyman-Alpha Clouds. *E. Baron, R. F. Carswell, C. J. Hogan, & R. J. Weymann.* 337, 609, 26-F1 (1989)

Hα Emission Lines in High-Redshift Quasars. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 342, 666, 110-G3 (1989)

Hα Emission Lines in High-Redshift Quasars: Erratum. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 354, 763, 85-F11 (1990) (Orig. paper in 342, 666, 110-G3 (1989))

CARTER, BRANDON. Dynamics of an Affine Star Model in a Black Hole Tidal Field. *Jean-Pierre Luminet & Brandon Carter.* 61, 219, 20-A5 (1986)

CARTER, D. Surface Photometry of Shell Galaxies. *B. P. Fort, J.-L. Prieur, D. Carter, S. J. Meatheringham, & L. Vigroux.* 306, 110, 82-D9 (1986)

The Radio Galaxy IC 4296 (PKS 1333–33). II. Spectroscopy, Surface Photometry, X-Ray Imaging, and Infrared Photometry. *N. E. B. Killeen, G. V. Bicknell, & D. Carter.* 309, 45, 120-D14 (1986)

The Dwarf Star Content of Elliptical and Lenticular Galaxies. *D. Carter, N. Visvanathan, & A. J. Pickles.* 311, 637, 154-G1 (1986)

Weak Disks in Rapidly Rotating Elliptical Galaxies. *D. Carter.* 312, 514, 8-E2 (1987)

NGC 5266: An Elliptical Galaxy with a Dust Ring. *S. R. Varnas, F. Bertola, G. Galletta, K. C. Freeman, & D. Carter.* 313, 69, 15-F12 (1987)

The Stellar Dynamics of NGC 1399. *G. V. Bicknell, D. Carter, N. E. B. Killeen, & T. E. G. Bruce.* 336, 639, 10-D6 (1989)

The Stellar Content of Central Dominant Galaxies. I. CCD Surface Photometry. *Glen Mackie, N. Visvanathan, & D. Carter.* 73, 637, 26-D13 (1990)

CARTER, DAVID. The Dynamics and Structure of Rich Clusters of Galaxies. I. Velocity Data. *Peter F. Teague, David Carter, & Peter M. Gray.* 72, 715, 13-B1 (1990)

CARTER, MICHAEL W. Observational Studies of Cepheids. VIII. Additional Radial Velocities of Cepheids and RR Lyrae Variables. *Teresa D. Wilson, Michael W. Carter, Thomas G. Barnes III, G. Wayne Van Citters, Jr., & Thomas J. Moffett.* 69, 951, 15-D3 (1989)

CASERTANO, STEFANO. Kinematics and Density of the Galactic Spheroid. *John N. Bahcall & Stefano Casertano.* 308, 347, 111-G5 (1986)

An Analysis of the Yale Bright Star Catalog. *John N. Bahcall, Stefano Casertano, & Kavan U. Ratnatunga.* 320, 515, 115-B10 (1987)

Kinematic Modeling of the Galaxy. I. The Yale Bright Star Catalogue. *Kavan U. Ratnatunga, John N. Bahcall, & Stefano Casertano.* 339, 106, 51-D1 (1989)

Kinematic Modeling of the Galaxy. II. Two Samples of High Proper-Motion Stars. *Stefano Casertano, Kavan U. Ratnatunga, & John N. Bahcall.* 357, 435, 118-A7 (1990)

CASEY, S. Far-Infrared and Submillimeter Photometric Mapping of Spiral Galaxies in the Virgo Cluster. *A. A. Stark, J. A. Davidson,*

S. Platt, D. A. Harper, R. Pernic, R. Loewenstein, G. Engargiola, & S. Casey. 337, 650, 27-B1 (1989)

CASEY, S. C. VY Monocerotis and the IC 446 Region: Far-Infrared and Submillimeter Images of a Massive Young Stellar Object and Its Environment. *S. C. Casey & D. A. Harper.* 362, 663, 179-A6 (1990)

CASEY, SEAN. The Interacting Galaxy Pair NGC 4485 and NGC 4490: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, Sean Casey, William B. Latter, & D. A. Harper.* 339, 803, 61-F7 (1989)

Star Formation and the Interstellar Medium in Two Peculiar, Nonspiral Galaxies: NGC 1569 and NGC 3593. *Deidre A. Hunter, Harley A. Thronson, Jr., Sean Casey, & D. A. Harper.* 341, 697, 94-A1 (1989)

Submillimeter Continuum Emission from Galaxies: Star Formation and the Interstellar Medium in the Local Group Dwarf IC 10. *Harley A. Thronson, Jr., Deidre A. Hunter, Sean Casey, & D. A. Harper.* 355, 94, 88-B9 (1990)

CASH, WEBSTER. Far-Ultraviolet Spectrophotometry of Spica. *Timothy A. Cook, Webster Cash, & Theodore P. Snow.* 347, L81, 199-D8 (1989)

CASPER, D. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

CASSAR, L. Lunar Occultations of *IRAS* Point Sources, 1986–1990. *M. Simon, L. Cassar, & W.-P. Chen.* 62, 673, 39-G2 (1986)

Lunar Occultations of *IRAS* Point Sources, 1991–2000. *L. Cassar, W.-P. Chen, & M. Simon.* 69, 651, 10-G7 (1989)

CASSATELLA, A. Ultraviolet Observations by the *IUE* of 31 Clusters of the Large Magellanic Cloud. *A. Cassatella, J. Barbero, & E. H. Geyer.* 64, 83, 18-A7 (1987)

First Unambiguous X-Ray Detection of R Aquarii. *R. Viotti, L. Piro, M. Friedjung, & A. Cassatella.* 319, L7, 100-A10 (1987)

The C IV Doublet Ratio Intensity Effect in Symbiotic Stars. *A. G. Michalitsianos, M. Kafatos, R. P. Fahey, R. Viotti, A. Cassatella, & A. Altamore.* 331, 477, 111-F1 (1988)

Narrow Ultraviolet Emission Lines from SN 1987A: Evidence for CNO Processing in the Progenitor. *C. Fransson, A. Cassatella, R. Gilmozzi, R. P. Kirshner, N. Panagia, G. Sonneborn, & W. Wamsteker.* 336, 429, 6-E1 (1989)

Ultraviolet Spectroscopy of Pre–Main-Sequence Accretion Disks. *S. J. Kenyon, L. Hartmann, C. L. Imhoff, & A. Cassatella.* 344, 925, 145-E9 (1989)

The Age Calibration of Integrated Ultraviolet Colors and Young Stellar Clusters in the Large Magellanic Cloud. *J. Barbero, E. Brocato, A. Cassatella, V. Castellani, & E. H. Geyer.* 351, 98, 39-C8 (1990)

CASSATELLA, ANGELO. *IUE* Observations of Z Andromedae: Spectral Variations during Quiescence and a Physical Model. *Telmo Fernández-Castro, Angelo Cassatella, Alvaro Giménez, & Roberto Viotti.* 324, 1016, 14-F5 (1988)

The Ultraviolet Spectrum of η Carinae. *Roberto Viotti, Lucio Rossi, Angelo Cassatella, Aldo Altamore, & Giovanni Battista Baratta.* 71, 983, 49-F5 (1989)

Ultraviolet and Infrared Monitoring of FG Sagittae during 1982–1989: Evolutionary Status. *Benjamin Montesinos, Angelo Cassatella, Rosario González-Riestra, Telmo Fernández-Castro, Carlos Eiroa, & Jesús Jiménez-Fuensalida.* 363, 245, 185-B8 (1990)

CASSÉ, M. Light Curves of Exploding Wolf-Rayet Stars. *R. Schaeffer, M. Cassé, & S. Cahen.* 316, L31, 56-C8 (1987)

Revisiting the Standard Solar Model. *S. Turck-Chièze, S. Cahen, M. Cassé, & C. Doom.* 335, 415, 175-C1 (1988)

CASSÉ, MICHEL. On the Production of ^{26}Al by Wolf-Rayet Stars: Galactic Yield and Gamma-Ray Line Emissivity. *Nikos Prantzos & Michel Cassé.* 307, 324, 98-E14 (1986)

Slow Neutron Capture Nucleosynthesis in the Progenitor of SN 1987A. *Nikos Prantzos, Marcel Arnould, & Michel Cassé.* 331, L15, 114-B6 (1988)

On the Evolution of Lithium 7 in Globular Clusters. *Elisabeth Vangioni-Flam, Michel Cassé, & Yvette Oberto.* 349, 510, 21-F1 (1990)

The Evolution of ^{9}Be. *Elisabeth Vangioni-Flam, Michel Cassé, Jean Audouze, & Yvette Oberto.* 364, 568, 203-B12 (1990)

CASSEN, PATRICK. Numerical Models of Rotating Protostars. *Richard H. Durisen, Shelby Yang, Patrick Cassen, & Steven W. Stahler.* 345, 959, 162-D9 (1989)

Equilibrium Models for Self-gravitating Inviscid Disks Resulting from the Collapse of Rotating Clouds. *Sally W. Stemwedel, Chi Yuan, & Patrick Cassen.* 351, 206, 40-E7 (1990)

Numerical Models of Rotating Protostars: Erratum. *Richard H. Durisen, Shelby Yang, Patrick Cassen, & Steven W. Stahler.* 361, 720, 167-A12 (1990) (Orig. paper in 345, 959, 162-D9 (1989))

CASSIDAY, G. L. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)

Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

CASSINELLI, J. P. Polarization of Light Scattered from the Winds of Early-Type Stars. *J. P. Cassinelli, K. H. Nordsieck, & M. A. Murison.* 317, 290, 67-B1 (1987)

CASSINELLI, JOSEPH P. Polarization in Massive X-Ray Binaries. I. A Low-Inclination Model for Cygnus X-1. *David B. Friend & Joseph P. Cassinelli.* 303, 292, 44-C6 (1986)

The Temperature Structure in Accretion Flows onto Massive Protostars. *Mark G. Wolfire & Joseph P. Cassinelli.* 310, 207, 134-C13 (1986)

Conditions for the Formation of Massive Stars. *Mark G. Wolfire & Joseph P. Cassinelli.* 319, 850, 104-C7 (1987)

On the Surface Magnetic Fields of Rapidly Rotating Stars with Winds. *Murugesapillai Maheswaran & Joseph P. Cassinelli.* 335, 931, 183-A1 (1988)

A Rotating, Magnetic, Radiation-driven Wind Model for Wolf-Rayet Stars. *Clint H. Poe, David B. Friend, & Joseph P. Cassinelli.* 337, 888, 30-A1 (1989)

Finite Source Depolarization Factors for Circumstellar Scattering. *John C. Brown, Vivette A. Carlaw, & Joseph P. Cassinelli.* 344, 341, 137-C3 (1989)

Shock-generated X-Ray Emission in Radiatively Driven Winds: A Model for Tau Scorpii. *Joseph J. MacFarlane & Joseph P. Cassinelli.* 347, 1090, 197-A13 (1989)

CASTAGNOLI, C. High-Energy Neutrinos from Cygnus X-3. *V. S. Berezinsky, C. Castagnoli, & P. Galeotti.* 301, 235, 16-E1 (1986)

CASTAÑEDA, HÉCTOR O. Fine-Scale Motion in the Central Orion Nebula. *Héctor O. Castañeda & C. R. O'Dell.* 315, L55, 45-E9 (1987)

Fine-Scale Motion in NGC 6514 and NGC 6523. *C. R. O'Dell, L. K. Townsley, & Hector O. Castañeda.* 317, 676, 73-D10 (1987)

Evidence for Turbulence in H II Regions. *C. R. O'Dell & Hector O. Castañeda.* 317, 686, 73-E6 (1987)

The Velocity Structure and Turbulence at the Center of the Orion Nebula. *Héctor O. Castañeda.* 67, 93, 11-E1 (1988)

A Remarkable Feature in the Giant Extragalactic H II Region NGC 5471. *Hector O. Castañeda, J. M. Vilchez, & Marcus V. F. Copetti.* 365, 164, 208-B9 (1990)

CASTELAZ, M. W. Airborne Spectrophotometry of Eta Carinae from 4.5 to 7.5 Microns and a Model for Source Morphology. *Ray W. Russell, David K. Lynch, John A. Hackwell, Richard J. Rudy, George S. Rossano, & M. W. Castelaz.* 321, 937, 134-F12 (1987)

C II 158 Micron and O I 63 Micron Observations of NGC 7023: A Model for Its Photodisscoiation Region. *A. Chokshi, A. G. G. M. Tielens, M. Werner, & M. W. Castelaz.* 334, 803, 165-C6 (1988)

CASTELAZ, MICHAEL. A Study of Upgren 1. *George Gatewood, Joost Kiewiet de Jonge, Michael Castelaz, Inwoo Han, Timothy Persinger, James Prosser, Thomas Reiland, & John Stein.* 332, 917, 134-D12 (1988)

A Map-based Determination of the Nature of Beta Delphini. *George Gatewood, Michael Castelaz, Timothy Persinger, John Stein, Pierre Demarque, Sabatino Sofia, & Bruce Stephenson.* 342, 1085, 115-E7 (1989)

MAP–based Trigonometric Parallaxes of Open Clusters: The Pleiades. *George Gatewood, Michael Castelaz, Inwoo Han, Timothy Persinger, John Stein, Bruce Stephenson, & William Tangren.* 364, 114, 195-D5 (1990)

CASTELAZ, MICHAEL W. An Infrared Reflection Nebula Surrounding SGS 1 in the NGC 1333 Dark Cloud. *Michael W. Castelaz, John A. Hackwell, Gary L. Grasdalen, & Robert D. Gehrz.* 300, 406, 5-D14 (1986)

GSS 30: An Infrared Reflection Nebula in the Ophiuchus Dark Cloud: Erratum. *Michael W. Castelaz, John A. Hackwell, Gary L. Grasdalen, Robert D. Gehrz, & Craig Gullixson.* 301, 502, 19-C9 (1986) (Orig. paper in 290, 261, 26-A1 (1985))

IRAS Surface Brightness Maps of Reflection Nebulae in the Pleiades. *Michael W. Castelaz, K. Sellgren, & M. W. Werner.* 313, 853, 26-B1 (1987)

The Discovery of an Infrared Reflection Nebula Surrounding R Coronae Australis IRS 5. *Michael W. Castelaz & John A. Hackwell.* 314, 317, 31-E9 (1987)

The Source of Flux for a Red Nebulous Object in NGC 2264. *Michael W. Castelaz & Gary Grasdalen.* 335, 150, 172-A9 (1988)

The Possible Nature of "Socket" Stars in H II Regions. *Michael W. Castelaz.* 348, L29, 6-C11 (1990)

CASTELLANI, V. The "Red Giant Clock" as an Indicator for the Efficiency of Central Mixing in Horizontal-Branch Stars. *F. Caputo, V. Castellani, A. Chieffi, L. Pulone, & A. Tornambè, Jr.* 340, 241, 70-A10 (1989)

Theoretical Models for Helium-burning Stars in Intermediate-Metallicity Globular Clusters. *V. Castellani, A. Chieffi, & L. Pulone.* 344, 239, 136-A3 (1989)

CCD Photometry of the Large Magellanic Cloud Cluster NGC 1866: Observational Results. *E. Brocato, R. Buonanno, V. Castellani, & A. R. Walker.* 71, 25, 33-D1 (1989)

The Effect of Enhanced α-Elements in Helium-burning Population II Stars. *D. Bencivenni, V. Castellani, A. Tornambè, & A. Weiss.* 71, 109, 35-D3 (1989)

The Age Calibration of Integrated Ultraviolet Colors and Young Stellar Clusters in the Large Magellanic Cloud. *J. Barbero, E. Brocato, A. Cassatella, V. Castellani, & E. H. Geyer.* 351, 98, 39-C8 (1990)

CASTELLANI, VITTORIO. The Evolution of Intermediate-Mass Stars through the H- and He-burning Phases. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 74, 463, 36-F11 (1990)

CASTELLI, F. The Ultraviolet Spectrum of Procyon. I. The Atlas from 2030 to 2371 Å. *R. Faraggiana, F. Castelli, C. Morossi, Y. Kondo, & K. A. van der Hucht.* 61, 719, 27-D2 (1986)

CASTETS, A. Discovery of CO Emission from NGC 1275. *B. Lazareff, A. Castets, D.-W. Kim, & M. Jura.* 336, L13, 8-C9 (1989)

CASTILHO, BRUNO V. Discovery of New Isolated T Tauri Stars. *Ramiro de la Reza, Carlos A. O. Torres, Germano Quast, Bruno V. Castilho, & Gladys L. Vieira.* 343, L61, 132-D1 (1989)

CASTOR, J. I. Instabilities in Line-driven Stellar Winds. IV. Linear Perturbations in Three Dimensions. *G. B. Rybicki, S. P. Owocki, & J. I. Castor.* 349, 274, 17-C6 (1990)

The Steady State Solutions of Radiatively Driven Stellar Winds for a Non-Sobolev, Pure Absorption Model. *C. H. Poe, S. P. Owocki, & J. I. Castor.* 358, 199, 124-E6 (1990)

CASTOR, JOHN I. Time-dependent Models of Radiatively Driven Stellar Winds. I. Nonlinear Evolution of Instabilities for a Pure Absorption Model. *Stanley P. Owocki, John I. Castor, & George B. Rybicki.* 335, 914, 182-F9 (1988)

Iron K-Shell Emission from NGC 1068. *David L. Band, Richard I. Klein, John I. Castor, & J. K. Nash.* 362, 90, 170-C1 (1990)

CASWELL, J. L. Widespread Strong Methanol Masers near H II Regions. *R. P. Norris, J. L. Caswell, F. F. Gardner, & K. J. Wellington.* 321, L159, 137-E8 (1987)

Milliarcsecond Observations of 12 GHz Methanol Masers. *W. H. McCutcheon, K. J. Wellington, R. P. Norris, J. L. Caswell, M. J. Kesteven, J. E. Reynolds, & R.-S. Peng.* 333, L79, 152-E11 (1988)

CATALA, CLAUDE. Short-Term Spectral Variability in AB Aurigae: Clues for Activity in Herbig Ae Stars. I. The Ultraviolet Lines of Mg II and Fe II. *Françoise Praderie, Theodore Simon, Claude Catala, & Ann Merchant Boesgaard.* 303, 311, 44-D13 (1986)

Short-Term Spectral Variability in AB Aurigae: Clues for Activity in Herbig Ae Stars. II. The Ca II K Line. *Claude Catala, Paul Felenbok, Jean Czarny, Antonio Talavera, & Ann Merchant Boesgaard.* 308, 791, 117-E9 (1986)

CATTANEO, FAUSTO. The Normal Modes of a Resonant Cavity Containing Discrete Inhomogeneities: The Influence of Fibril Magnetic Fields on the Solar Acoustic Oscillations. *Thomas J. Bogdan & Fausto Cattaneo.* 342, 545, 107-D8 (1989)

Supersonic Convection. *Fausto Cattaneo, Neal E. Hurlburt, & Juri Toomre.* 349, L63, 24-D6 (1990)

Turbulent Supersonic Convection in Three Dimensions. *Andrea Malagoli, Fausto Cattaneo, & Nicholas H. Brummell.* 361, L33, 161-G1 (1990)

CAULET, A. Interstellar Absorption Lines in the Galaxy NGC 1705. *D. G. York, A. Caulet, P. Rybski, J. Gallagher, J. C. Blades, D. C. Morton, & W. Wamsteker.* 351, 412, 45-B9 (1990)

CAULET, ADELINE. The Evolution of Low-Ionization QSO Absorption Systems. *Adeline Caulet.* 340, 90, 68-B6 (1989)

CAVALIERE, A. Primeval QSOs. *A. Cavaliere & A. S. Szalay.* 311, 589, 154-C8 (1986)

Space Distribution of X-Ray Clusters of Galaxies. *A. Cavaliere & S. Colafrancesco.* 331, 660, 116-B1 (1988)

Eddington Ratios as a Constraint on the Activity Patterns of the Active Galactic Nuclei. *A. Cavaliere & P. Padovani.* 333, L33, 152-A10 (1988)

The Connection between Active and Normal Galaxies. *A. Cavaliere & P. Padovani.* 340, L5, 75-C11 (1989)

Space Distribution of Extragalactic Sources: Cosmology versus Evolution. *A. Cavaliere & T. Maccacaro.* 358, 1, 122-A11 (1990)

CAVALIERE, ALFONSO. The Dynamical Evolution of Clusters of Galaxies. *Alfonso Cavaliere, Paolo Santangelo, Giuseppe Tarquini, & Nicola Vittorio.* 305, 651, 76-A7 (1986)

CAWLEY, M. F. Pulsed TeV Gamma Rays Detected from Hercules X-1 during X-Ray Source Eclipse. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 308, L11, 113-F6 (1986)

Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 309, 114, 121-C4 (1986)

TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

CAWTHORNE, T. V. Kinematic Constraints on Models of the BL Lacertae Object OJ 287 from VLBI Polarization Observations. *T. V. Cawthorne & J. F. C. Wardle.* 332, 696, 131-G5 (1988)

The Milliarcsecond Polarization Structure of Six BL Lacertae Objects. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 347, 701, 192-A5 (1989)

Linear Polarization of Radiation from Oblique and Conical Shocks. *T. V. Cawthorne & W. K. Cobb.* 350, 536, 32-G11 (1990)

CEBULA, D. A Measurement of the Cosmic-Ray Primary Composition between 3×10^{13} and 3×10^{15} eV Using Underground Muons. *D. Cebula, S. C. Corbató, T. Daily, D. B. Kieda, K. Lande, C. K. Lee, & M. L. Cherry.* 358, 637, 131-D5 (1990)

CECCARELLI, C. Millimeter Observations of the Magellanic Clouds. *P. Andreani, C. Ceccarelli, G. Dall'Oglio, L. Martinis, L. Piccirillo, L. Pizzo, L. Rossi, & C. Venturino.* 348, 467, 8-D3 (1990)

CECIL, GERALD. Kinematics of Spatially Extended High-Velocity Outflow from the Nucleus of M51. *Gerald Cecil.* 329, 38, 75-D4 (1988)

Imaging Spectrophotometry of Ionized Gas in NGC 1068. I. Kinematics of the Narrow-Line Region. *Gerald Cecil, Jonathan Bland, & R. Brent Tully.* 355, 70, 87-G10 (1990)

CELIS S., L. *UBVRI* Photometry of Red Stars. *L. Celis S.* 60, 879, 13-B6 (1986)

CEN, R. Y. The Universe in a Box: Thermal Effects in the Standard Cold Dark Matter Scenario. *R. Y. Cen, Antony Jameson, Feng Liu, & Jeremiah P. Ostriker.* 362, L41, 181-B1 (1990)

CENTRELLA, JOAN M. A Case Study of Large-Scale Structure in a "Hot" Model Universe. *Joan M. Centrella, John S. Gallagher III, Adrian L. Melott, & Howard A. Bushouse.* 333, 24, 138-C4 (1988)

CEPA, JORDI. Star Formation Triggering by Density Waves in the Grand Design Spirals NGC 3992 and NGC 628. *Jordi Cepa & John E. Beckman.* 349, 497, 21-D11 (1990)

CERNICHARO, J. Laboratory Microwave Spectroscopy of the Vibrational Satellites for the ν_7 and $2\nu_7$ States of C_4H and Their Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, M. Guélin, J. Cernicharo, Hiroko Suzuki, & Masatoshi Ohishi.* 323, L149, 164-E8 (1987)

Linear Polarization of Millimeter-Wave Emission Lines in Clouds without Large Velocity Gradients. *D. C. Lis, P. F. Goldsmith, R. L. Dickman, C. R. Predmore, A. Omont, & J. Cernicharo.* 328, 304, 65-C7 (1988)

Astronomical and Laboratory Detection of the SiC Radical. *J. Cernicharo, C. A. Gottlieb, M. Guélin, P. Thaddeus, & J. M. Vrtilek.* 341, L25, 91-C4 (1989)

Phosphorus in the Dense Interstellar Medium. *B. E. Turner, T. Tsuji, J. Bally, M. Guélin, & J. Cernicharo.* 365, 569, 215-C9 (1990)

CEROSIMO, J. C. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

CERRUTI, MIGUEL A. Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)

CERRUTI-SOLA, M. The "SEI" Method for Accurate and Efficient Calculations of Line Profiles in Spherically Symmetric Stellar Winds. *H. J. G. L. M. Lamers, M. Cerruti-Sola, & M. Perinotto.* 314, 726, 37-E6 (1987)

Fast Winds from the Central Stars of NGC 6543 and NGC 6826. *M. Perinotto, M. Cerruti-Sola, & H. J. G. L. M. Lamers.* 337, 382, 22-B1 (1989)

Model Atmospheres and Parameters of Central Stars of Planetary Nebulae. *P. Patriarchi, M. Perinotto, & M. Cerruti-Sola.* 345, 327, 153-B10 (1989)

Fast Winds in Central Stars of Some Planetary Nebulae. *M. Cerruti-Sola & M. Perinotto.* 345, 339, 153-C12 (1989)

CERSOSIMO, J. C. Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

Observations at 1.4 GHz in the Milky Way between Longitude 330° and 340°. *J. C. Cersosimo.* 349, 67, 14-G4 (1990)

Ionized Gas in the Inner Galaxy: The 3 Kiloparsec Arm. *J. C. Cersosimo.* 356, 156, 101-A3 (1990)

CHACKERIAN, C., JR. Vibration-Rotational Intensities for the $X\,^1\Sigma^+$ State of Al H and AlD. *R. H. Tipping, A. Lopez Piñeiro, & C. Chackerian, Jr.* 323, 810, 163-E12 (1987)

CHADWICK, P. M. SN 1987A: Limits to 400 GeV Gamma-Ray Emission. *P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, S. M. Rayner, K. J. Orford, K. E. Turver, & D. G. Williams.* 333, L19, 144-B11 (1988)

300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)

New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989))

CHAFFEE, FREDERIC H. A New Wide-Separation Gravitational Lens Candidate. *Paul C. Hewett, Rachel L. Webster, Margaret E. Harding, Robert J. Jedrzejewski, Craig B. Foltz, Frederic H. Chaffee, Michael J. Irwin, & Olivier Le Fèvre.* 346, L61, 181-B12 (1989)

CHAFFEE, FREDERIC H., JR. On the Abundance of Metals and the Ionization State in Absorbing Clouds toward QSOs. *Frederic H. Chaffee, Jr., Craig B. Foltz, Jill Bechtold, & Ray J. Weymann.* 301, 116, 15-C1 (1986)

C IV Absorption Systems in QSO Spectra: Is the Character of Systems with $z_{abs} \cong z_{em}$ Different from Those with $z_{abs} \ll z_{em}$? *Craig B. Foltz, Ray J. Weymann, Bradley M. Peterson, Light Sun, Matthew A. Malkan, & Frederic H. Chaffee, Jr.* 307, 504, 102-C1 (1986)

An Upper Limit on the Microwave Background Temperature at $z = 1.776$. *David M. Meyer, John H. Black, Frederic H. Chaffee, Jr., Craig B. Foltz, & Donald G. York.* 308, L37, 120-E1 (1986)

Molecules at Early Epochs. II. H_2 and CO toward PHL 957. *John H. Black, Frederic H. Chaffee, Jr., & Craig B. Foltz.* 317, 442, 68-G2 (1987)

Molecules at Early Epochs. IV. Confirmation of the Detection of H_2 toward PKS 0528−250. *Craig B. Foltz, Frederic H. Chaffee, Jr., & John H. Black.* 324, 267, 4-B4 (1988)

Probing Extragalactic Disks—Limits on the Size and Mass of the "Local" Lyman Alpha Disk toward 3CR 196. *Craig B. Foltz, Frederic H. Chaffee, Jr., & Arthur M. Wolfe.* 335, 35, 170-E1 (1988)

Molecules at Early Epochs. III. The Lyman-Alpha Disk System toward 1331+170. *Frederic H. Chaffee, Jr., John H. Black, & Craig B. Foltz.* 335, 584, 179-A1 (1988)

CHAGELISHVILI, G. D. Fast Variation of Cygnus X-1 and Related Sources. *G. D. Chagelishvili, J. B. Lominadze, & A. D. Rogava.* 347, 1100, 197-C1 (1989)

CHAKRABARTI, SANDIP K. Rotating Wind Solution and the Acceleration of the Cosmic Radio Jets. *Sandip K. Chakrabarti.* 303, 582, 48-G6 (1986)

Nucleosynthesis inside Thick Accretion Disks around a Black Hole. I. Thermodynamic Conditions and Preliminary Analysis. *Sandip K. Chakrabarti, Liping Jin, & W. David Arnett.* 313, 674, 24-B10 (1987)

Constraints on the Viscosity Parameter in the Thick Disk from X-Ray and Gamma-Ray Observations in SS 433. *Sandip K. Chakrabarti.* 324, 391, 5-D12 (1988)

Nucleosynthesis inside Thick Accretion Disks around Black Holes. II. Results for Massive Black Holes. *Liping Jin, W. David Arnett, & Sandip K. Chakrabarti.* 336, 572, 9-F1 (1989)

Studying Shocks in Model Astrophysical Flows. *Sandip K. Chakrabarti.* 337, L89, 32-C11 (1989)

Standing Rankine-Hugoniot Shocks in the Hybrid Model Flows of the Black Hole Accretion and Winds. *Sandip K. Chakrabarti.* 347, 365, 186-E9 (1989)

Standing Shocks in the Rotating Winds and Accretion in Kerr Spacetime. *Sandip K. Chakrabarti.* 350, 275, 28-D3 (1990)

Standing Shocks in Adiabatic Black Hole Accretion of Rotating Matter. *Marek A. Abramowicz & Sandip K. Chakrabarti.* 350, 281, 28-D10 (1990)

Standing Rankine-Hugoniot Shocks in the Hybrid Model Flows. II. Nonaxisymmetric Self-similar Solution. *Sandip K. Chakrabarti.* 362, 406, 175-E4 (1990)

CHAMBE, G. Impact Line Linear Polarization as a Diagnostic of 100 keV Proton Acceleration in Solar Flares. *J. C. Hénoux, G. Chambe, D. Smith, D. Tamres, N. Feautrier, M. Rovira, & S. Sahal-Bréchot.* 73, 303, 21-G11 (1990)

Coronal Proton Transport in the Presence of Alfvén Waves and Implications for Impact Line Linear Polarization. *D. F. Smith, G. Chambe, J. C. Hénoux, & D. Tamres.* 358, 674, 132-A1 (1990)

CHAMBERS, K. C. 4C 40.36: A Radio Galaxy at a Redshift of 2.3. *K. C. Chambers, G. K. Miley, & W. J. M. van Breugel.* 327, L47, 61-B7 (1988)

2.2 Micron Image of 3C 368 at z=1.13, a Galaxy with Aligned Radio and Stellar Axes. *K. C. Chambers, G. K. Miley, & R. R. Joyce.* 329, L75, 89-C2 (1988)

The Ages of High-Redshift Radio Galaxies. *K. C. Chambers & Stéphane Charlot.* 348, L1, 6-A7 (1990)

Stellar Absorption Features in High-Redshift Radio Galaxies. *K. C. Chambers & P. J. McCarthy.* 354, L9, 80-B3 (1990)

4C 41.17: A Radio Galaxy at a Redshift of 3.8. *K. C. Chambers, G. K. Miley, & W. J. M. van Breugel.* 363, 21, 182-D1 (1990)

CHAMBON, G. Hard X-Ray Pulse Profile and Period Evaluation of A0535+26 and GX 1+4 as Observed by the Franco-Soviet Signe Satellite Experiments. *A. Refloc'h, G. Chambon, M. Niel, G. Vedrenne, & Ch. Yu. Rakhamimov.* 310, 773, 142-D3 (1986)

CHAMORRO, A. Models of Voids in the Expanding Universe. *W. B. Bonnor & A. Chamorro.* 361, 21, 157-C7 (1990)

CHAN, EDMOND. Ultraviolet-Excess Objects in the Field of NGC 6121 (M4). *Edmond Chan & Harvey B. Richer.* 302, 257, 30-G9 (1986)

CHAN, K. W. Calculated Gamma-Ray Line Fluxes from the Type II Supernova 1987A. *K. W. Chan & R. E. Lingenfelter.* 318, L51, 92-B12 (1987)

CHAN, KWING L. Turbulent Compressible Convection in a Deep Atmosphere. III. Tests on the Validity and Limitation of the Numerical Approach. *Kwing L. Chan & S. Sofia.* 307, 222, 97-D12 (1986)

Correlation Mass Method for Analysis of Neutrinos from Supernova 1987A. *Hong-Yee Chiu, Kwing L. Chan, & Yoji Kondo.* 329, 326, 78-F3 (1988)

Turbulent Compressible Convection in a Deep Atmosphere. IV. Results of Three-dimensional Computations. *Kwing L. Chan & S. Sofia.* 336, 1022, 15-C1 (1989)

CHAN, R. Friedmann-like Collapsing Radiating Sphere. *R. Chan, J. P. S. Lemos, N. O. Santos, & J. A. de Fteitas Pacheco.* 342, 976, 114-D1 (1989)

CHAN, S. JOSEPHINE. The Transition from Oxygen-rich to Carbon Stars. *S. Josephine Chan & Sun Kwok.* 334, 362, 158-E3 (1988)

CHAN, SIU-KUEN J. On the Amplitudes of Bump Cepheids. *J. D. Fernie & Siu-kuen J. Chan.* 303, 766, 51-A1 (1986)

CHANAN, G. A. Astrophysical Implications and Observational Prospects of X-Ray Polarimetry. *P. Mészáros, R. Novick, G. A. Chanan, M. C. Weisskopf, & A. Szentgyörgyi.* 324, 1056, 15-B5 (1988)

CHANAN, GARY A. Optical Polarization of the Crab-like Supernova Remnant 0540–693 in the Large Magellanic Cloud. *Gary A. Chanan & David J. Helfand.* 352, 167, 52-A13 (1990)

CHANCE, DON. Molecules in Galaxies. V. CO Observations of Flocculent and Grand-Design Spirals. *Antony A. Stark, Bruce G. Elmegreen, & Don Chance.* 322, 64, 138-F1 (1987)

CHANG, C. A. The Effect of a Quasi-stellar Object on Its Host Galaxy: Dynamical and Physical Processes in the Interstellar Medium around a Quasi-stellar Object. *C. A. Chang, A. V. R. Schiano, & A. M. Wolfe.* 322, 180, 139-G8 (1987)

The Hydrodynamic Collapse of Protogalaxies to Lyα Disks. *A. V. R. Schiano, A. M. Wolfe, & C. A. Chang.* 365, 439, 213-D10 (1990)

CHANG, EDWARD S. Mg I Absorption Features in the Solar Spectrum near 9 and 12 Microns. *David A. Glenar, Dennis C. Reuter, Drake Deming, & Edward S. Chang.* 335, L35, 177-D1 (1988)

CHANG, H. M. On the Numerical Computation of Nonlinear Force-free Magnetic Fields. *S. T. Wu, M. T. Sun, H. M. Chang, M. J. Hagyard, & G. A. Gary.* 362, 698, 179-D6 (1990)

CHANG, TOM. Collective Plasma Microinstability as a Possible Mechanism for the One-sided Core-Jet Emission of Extragalactic Radio Sources. *Peter H. Yoon & Tom Chang.* 343, 31, 118-D7 (1989)

CHANMUGAM, G. Lower Bounds on the Masses of Rapidly Rotating White Dwarfs. *G. Chanmugam, Meenakshi Rao, & Joel E. Tohline.* 319, 188, 95-A13 (1987)

Polarized Radiation from Extended Magnetic Polar Caps. *G. Chanmugam & J. Frank.* 320, 746, 118-A1 (1987)

Ohmic Decay of Crustal Neutron Star Magnetic Fields. *Yeming Sang & G. Chanmugam.* 323, L61, 158-E2 (1987)

Radio Flares from AE Aquarii: A Low-Power Analog to Cygnus X-3? *T. S. Bastian, G. A. Dulk, & G. Chanmugam.* 324, 431, 6-A1 (1988)

Radio Flares from AE Aquarii: A Low-Power Analog to Cygnus X-3?: Erratum. *T. S. Bastian, G. A. Dulk, & G. Chanmugam.* 330, 518, 96-A12 (1988) (Orig. paper in 324, 431, 6-A1 (1988))

Cyclotron Spectra from Inhomogeneous Accretion Columns. *Kinwah Wu & G. Chanmugam.* 331, 861, 118-D1 (1988)

Cyclotron Spectra from Inhomogeneous Accretion Columns. II. Polarization. *Kinwah Wu & G. Chanmugam.* 344, 889, 145-C1 (1989)

Thermal Cyclotron Absorption Coefficients. *G. Chanmugam, P. E. Barrett, Kinwah Wu, & M. W. Courtney.* 71, 323, 39-C9 (1989)

Strongly Magnetic White Dwarf Binaries in Globular Clusters. *A. Ray & G. Chanmugam.* 350, L9, 31-B6 (1990)

The Magnetic Field of the Intermediate Polar BG Canis Minoris. *G. Chanmugam, J. Frank, A. R. King, & J.-P. Lasota.* 350, L13, 31-B11 (1990)

Polarized Cyclotron Emission from Three-dimensional Accretion Shocks. *Kinwah Wu & G. Chanmugam.* 354, 625, 84-B1 (1990)

Pulsar Statistics with Nonexponential Magnetic Field Decay. *Yeming Sang & G. Chanmugam.* 363, 597, 191-E9 (1990)

Polarized Radiation from Magnetic Accretion Rings. *J. Frank & G. Chanmugam.* 365, 660, 216-D8 (1990)

CHAPMAN, G. A. Solar Irradiance Variations Derived from Magnetograms. *G. A. Chapman & J. E. Boyden.* 302, L71, 40-F6 (1986)

Photometric Determination of Facular Contrasts near the Solar Disk Center. *J. K. Lawrence, G. A. Chapman, & A. D. Herzog.* 324, 1184, 16-E9 (1988)

Photometric Observations of Facular Contrasts near the Solar Limb. *J. K. Lawrence & G. A. Chapman.* 335, 996, 183-F2 (1988)

Photometric Measurements of Solar Irradiance Variations Due to Sunspots. *G. A. Chapman, A. D. Herzog, D. E. Laico, J. K. Lawrence, & M. S. Templer.* 343, 547, 124-G1 (1989)

Photometric Observations of the Energetics of Small Solar Active Regions. *J. K. Lawrence & G. A. Chapman.* 361, 709, 166-G12 (1990)

CHAPMAN, ROBERT D. On the Nondetection of Extrasolar Comets. *Thomas A. McGlynn & Robert D. Chapman.* 346, L105, 181-F2 (1989)

CHAPMAN, SCOTT C. He I λ10830 Observations of Seyfert 2 Galaxies. *Richard J. Rudy, Ross D. Cohen, George S. Rossano, R. C. Puetter, & Scott C. Chapman.* 341, 120, 85-D8 (1989)

CHAPPELLE, EMMETT. Laboratory Experiments on Carbonaceous Material as a Source for the Red Rectangle Visual Emissions. *Thomas J. Wdowiak, Bertram Donn, Joseph A. Nuth, Emmett Chappelle, & Marla Moore.* 336, 838, 12-G8 (1989)

CHAR, S. Circular Polarization of the Ca II H and K Lines in Solar Quiet and Active Regions. *V. Martínez Pillet, R. J. García López, J. C. del Toro Iniesta, R. Rebolo, M. Vázquez, J. E. Beckman, & S. Char.* 361, L81, 168-F6 (1990)

CHARBONNEAU, PAUL. Two-dimensional Particle Transport in HgMn and FmAm Stars. *Paul Charbonneau & Georges Michaud.* 327, 809, 57-D14 (1988)

Meridional Circulation and the Lithium Abundance Gap in F Stars. *Paul Charbonneau & Georges Michaud.* 334, 746, 164-F4 (1988)

Lithium Abundance in Cluster Giants: Constraints on Meridional Circulation Transport on the Main Sequence. *Paul Charbonneau, Georges Michaud, & Charles R. Proffitt.* 347, 821, 193-E7 (1989)

Turbulence and the Li Abundance in Main-Sequence and Giant Stars. *Paul Charbonneau & Georges Michaud.* 352, 681, 59-D9 (1990)

CHARLAND, Y. Mass Loss in A and F Stars: The λ Bootis Stars. *G. Michaud & Y. Charland.* 311, 326, 149-F3 (1986)

CHARLES, P. A. A 6 Second Periodic X-Ray Source in Carina. *F. D. Seward, P. A. Charles, & A. P. Smale.* 305, 814, 77-G2 (1986)

CHARLES, PHILIP. A New Soft X-Ray Mode in the AM Herculis Object E2003+225. *Julian P. Osborne, Klaus Beuermann, Philip Charles, Laura Maraschi, Koji Mukai, & Aldo Treves.* 315, L123, 49-E5 (1987)

CHARLES, PHILIP A. Optical Observations of the X-Ray Binary V1727 Cygni (=4U 2129+47) during a Low State: Some Unexpected Results. *John R. Thorstensen, Kenneth R. Brownsberger, Delo E. Mook, The Off-Campus Program Students, Ronald A. Remillard, Jeffrey E. McClintock, David C. Koo, & Philip A. Charles.* 334, 430, 159-E1 (1988)

CHARLOT, STÉPHANE. The Ages of High-Redshift Radio Galaxies. *K. C. Chambers & Stéphane Charlot.* 348, L1, 6-A7 (1990)

CHARLTON, JANE C. Percolation of Explosive Galaxy Formation. *Jane C. Charlton & David N. Schramm.* 310, 26, 132-C8 (1986)

Kinematic Tests of Exotic Flat Cosmological Models. *Jane C. Charlton & Michael S. Turner.* 313, 495, 22-C1 (1987)

Cosmic String Wakes and Large-Scale Structure. *Jane C. Charlton.* 325, 521, 26-C1 (1988)

Sporadic Mass Loss, Spin-down, and Element Redistribution in Young Disk Galaxies. *Jane C. Charlton & Edwin E. Salpeter.* 346, 101, 167-C5 (1989)

CHASE, L. F., JR. High-Resolution Observations of Gamma-Ray Line Emission from SN 1987A. *W. G. Sandie, G. H. Nakano, L. F. Chase, Jr., G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, & G. P. Lasche.* 334, L91, 169-E2 (1988)

CHATTERJEE, S. Bianchi Type I Cosmological Models in Higher Dimensions. *A. Banerjee, B. Bhui, & S. Chatterjee.* 358, 23, 122-C8 (1990)

CHAU, W. Y. Theoretical Models of Low-Mass Stars and Brown Dwarfs. I. The Lower Main Sequence. *Ben Dorman, Lorne A. Nelson, & W. Y. Chau.* 342, 1003, 114-F5 (1989)

CHAUVILLE, J. Monodeuterated Methane in the Outer Solar System. II. Its Detection on Uranus at 1.6 Microns. *C. de Bergh, B. L. Lutz, T. Owen, J. Brault, & J. Chauville.* 311, 501, 151-D14 (1986)

Monodeuterated Methane in the Outer Solar System. III. Its Abundance on Titan. *C. de Bergh, B. L. Lutz, T. Owen, & J. Chauville.* 329, 951, 87-E1 (1988)

CHAYER, P. The M31 Globular Cluster System: Erratum. *D. Crampton, A. P. Cowley, D. Schade, & P. Chayer.* 322, 1074, 151-F12 (1987) (Orig. paper in 288, 494, 8-B2 (1985))

An Explanation for the Peculiar EUV Spectrum of the Hot DA White Dwarf Feige 24. *S. Vennes, P. Chayer, G. Fontaine, & F. Wesemael.* 336, L25, 8-D9 (1989)

CHEN, HAIQI. Analysis of the Velocity Law in the Wind of the Be Star λ Pavonis. *Haiqi Chen, Adela Ringuelet, Jorge Sahade, & Yoji Kondo.* 347, 1082, 197-A1 (1989)

CHEN, HUA. A Newly Discovered Molecular Cloud in Cepheus OB4. *Ji Yang, Yasuo Fukui, Tomofumi Umemoto, Hideo Ogawa, & Hua Chen.* 362, 538, 177-D5 (1990)

CHEN, JAMES. Effects of Toroidal Forces in Current Loops Embedded in a Background Plasma. *James Chen.* 338, 453, 38-E1 (1989)

Effects of Toroidal Forces in Current Loops Embedded in a Background Plasma: Erratum. *James Chen.* 344, 1051, 147-C1 (1989) (Orig. paper in 338, 453, 38-E1 (1989))

Equilibrium of Solar Coronal Arcades. *John M. Finn & James Chen.* 349, 345, 18-B8 (1990)

CHEN, KAIYOU. Pulse Sharpness and Asymmetry in Millisecond Pulsars. *Kaiyou Chen & Jacob Shaham.* 339, 279, 53-D9 (1989)

Kinematic Evidence for a Relativistic Keplerian Disk: Arp 102B. *Kaiyou Chen, Jules P. Halpern, & Alexei V. Filippenko.* 339, 742, 61-A9 (1989)

Structure of Line-emitting Accretion Disks in Active Galactic Nuclei: Arp 102B. *Kaiyou Chen & Jules P. Halpern.* 344, 115, 134-D12 (1989)

Spectropolarimetric Test of the Relativistic Disk Model for the Broad Emission Lines of Active Galactic Nuclei. *Kaiyou Chen & Jules P. Halpern.* 354, L1, 80-A7 (1990)

CHEN, W.-P. Lunar Occultations of *IRAS* Point Sources, 1986–1990. *M. Simon, L. Cassar, & W.-P. Chen.* 62, 673, 39-G2 (1986)

Milliarcsecond Resolution Infrared Observations of Young Stars in Taurus and Ophiuchus. *M. Simon, R. R. Howell, A. J. Longmore, B. A. Wilking, D. M. Peterson, & W.-P. Chen.* 320, 344, 111-G3 (1987)

Lunar Occultations of *IRAS* Point Sources, 1991–2000. *L. Cassar, W.-P. Chen, & M. Simon.* 69, 651, 10-G7 (1989)

Discovery of Five Pre–Main-Sequence Binaries in Taurus. *W.-P. Chen, M. Simon, A. J. Longmore, R. R. Howell, & J. A. Benson.* 357, 224, 113-G5 (1990)

Subarcsecond Resolution Observations of the Central Parsec of the Galaxy at 2.2 Microns. *M. Simon, W.-P. Chen, W. J. Forrest, J. D. Garnett, A. J. Longmore, T. Gauer, & R. I. Dixon.* 360, 95, 146-C1 (1990)

CHENG, A. F. Thermal Afterglow from Transient Energy Release in Neutron Stars. *D. Eichler & A. F. Cheng.* 336, 360, 5-F3 (1989)

CHENG, A. Y. S. Diameter and Limb-darkening Measures for Alpha Orionis. *A. Y. S. Cheng, E. K. Hege, E. N. Hubbard, L. Goldberg, P. A. Strittmatter, & W. J. Cocke.* 309, 737, 129-C11 (1986)

Two-dimensional Images of Alpha Orionis. *J. C. Hebden, J. C. Christou, A. Y. S. Cheng, E. K. Hege, P. A. Strittmatter, J. M. Beckers, & H. P. Murphy.* 309, 745, 129-D5 (1986)

CHENG, ANDREW F. Radio Pulsar Spin-down: Tests of Pulsar Models. *Andrew F. Cheng.* 337, 803, 29-A1 (1989)

Eclipsing Millisecond Pulsar: Excitation of the Companion Wind. *Andrew F. Cheng.* 339, 291, 53-E7 (1989)

Shock Drift Mechanism for Forbush Decreases. *Andrew F. Cheng, E. T. Sarris, & C. Dodopoulos.* 350, 413, 30-B1 (1990)

CHENG, C.-C. Effect of Coronal Elemental Abundances on the Radiative Loss Function. *J. W. Cook, C.-C. Cheng, V. L. Jacobs, & S. K. Antiochos.* 338, 1176, 48-B9 (1989)

CHENG, CHUNG-CHIEH. Dynamic Evolution of the Transition-Zone Plasma in Solar Flares and Active Region Transients. *Chung-Chieh Cheng & E. Tandberg-Hanssen.* 309, 421, 124-D12 (1986)

Analysis of Ultraviolet and X-Ray Observations of Three Homologous Solar Flares from *SMM*. *Chung-Chieh Cheng & Roberto Pallavicini.* 318, 459, 84-A3 (1987)

Temporal and Spatial Relationships between O V and Fe XXI Emissions in Solar Flares. *Chung-Chieh Cheng & Roberto Pallavicini.* 324, 1138, 16-A9 (1988)

Temporal Correlations between Impulsive Ultraviolet and Hard X-Ray Bursts in Solar Flares Observed with High Time Resolution. *Chung-Chieh Cheng, K. Vanderveen, L. E. Orwig, & E. Tandberg-Hanssen.* 330, 480, 95-F1 (1988)

Nonlocal Thermal Transport in Solar Flares. II. Spectroscopic Diagnostics. *Judith T. Karpen, Chung-Chieh Cheng, George A. Doschek, & C. Richard DeVore.* 338, 1184, 48-C3 (1989)

Ultraviolet Observations of the Preimpulsive Phase in a Solar Flare: Enhanced Turbulence and Heating. *Chung-Chieh Cheng.* 349, 362, 18-C13 (1990)

CHENG, E. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

CHENG, E. S. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

CHENG, EDWARD S. A Large-Scale Cosmic Microwave Background Anisotropy Measurement at Millimeter and Submillimeter Wavelengths. *Lyman A. Page, Edward S. Cheng, & Stephan S. Meyer.* 355, L1, 92-A7 (1990)

CHENG, F. H. New Considerations on the Broad-Line Regions of Quasars. *J. H. You & F. H. Cheng.* 322, 174, 139-G2 (1987)

Polarization of Thermal Radiation from Accretion Disks in Dwarf Novae. *F. H. Cheng, G. A. Shields, D. N. C. Lin, & J. E. Pringle.* 328, 223, 64-D4 (1988)

Spectral Evolution of Accretion Disks of Dwarf Novae. II. Radiative Transfer Models. *F. H. Cheng & D. N. C. Lin.* 337, 432, 22-F1 (1989)

A New Mechanism for Small Redshift of H I Broad Lines with Respect to C IV Line in Quasars. *F. H. Cheng, J. H. You, & M. Yan.* 358, 18, 122-C1 (1990)

CHENG, JIU-HENG. An Analysis on the Precession of the Accretion Disk on Hercules X-1. *Guo-jun Qiao & Jiu-heng Cheng.* 340, 503, 73-D11 (1989)

CHENG, K. S. Energetic Radiation from Rapidly Spinning Pulsars. I. Outer Magnetosphere Gaps. *K. S. Cheng, C. Ho, & M. Ruderman.* 300, 500, 8-E10 (1986)

Energetic Radiation from Rapidly Spinning Pulsars. II. Vela and Crab. *K. S. Cheng, C. Ho, & M. Ruderman.* 300, 522, 8-G5 (1986)

Outer Magnetospheric Fluctuations and Pulsar Timing Noise. *K. S. Cheng.* 321, 799, 133-C6 (1987)

Could Glitches Inducing Magnetospheric Fluctuations Produce Low-Frequency Pulsar Timing Noise? *K. S. Cheng.* 321, 805, 133-C13 (1987)

Spontaneous Superfluid Unpinning and the Inhomogeneous Distribution of Vortex Lines in Neutron Stars. *K. S. Cheng, M. A. Alpar, D. Pines, & J. Shaham.* 330, 835, 101-F8 (1988)

Evolution of a Short-Period Gamma-Ray Pulsar Family: Crab, Vela, *COS B* Source, Gamma-Ray Burst Source. *M. Ruderman & K. S. Cheng.* 335, 306, 174-A1 (1988)

Period Difference between X-Ray and Very High Energy Gamma-Ray Observations of Accreting X-Ray Pulsars. *K. S. Cheng & Malvin Ruderman.* 337, L77, 32-B10 (1989)

Vortex Creep and the Internal Temperature of Neutron Stars: Linear and Nonlinear Response to a Glitch. *M. A. Alpar, K. S. Cheng, & D. Pines.* 346, 823, 177-E2 (1989)

CHENG, KWANG-PING. The Stellar Radiation Field and the Ionization of H and He in the Local Interstellar Medium. *Frederick C. Bruhweiler & Kwang-Ping Cheng.* 335, 188, 172-E4 (1988)

Ionization Processes in the Local Interstellar Medium: Effects of the Hot Coronal Substrate. *Kwang-Ping Cheng & Frederick C. Bruhweiler.* 364, 573, 203-C5 (1990)

CHENG, YE. Resonance Excitation of Spiral Density Waves in a Gaseous Disk. I. A Linear Theory. *Chi Yuan & Ye Cheng.* 340, 216, 69-F11 (1989)

CHERCHNEFF, ISABELLE. Infrared Emission from a Polycyclic Aromatic Hydrocarbon (PAH) Excited by Ultraviolet Laser. *Isabelle Cherchneff & John R. Barker.* 341, L21, 91-B13 (1989)

CHEREPASHCHUK, A. M. Stratification of the Extended Atmosphere of the Wolf-Rayet Component of V444 Cygni: Erratum. *Joel A. Eaton, A. M. Cherepashchuk, & Kh. F. Khaliullin.* 334, 1076, 168-D10 (1988) (Orig. paper in 297, 266, 103-A3 (1985))

CHERNOFF, D. F. An Isolated, Well-defined Infrared Cirrus Cloud. *T. Herter, D. L. Shupe, & D. F. Chernoff.* 352, 149, 51-G6 (1990)

CHERNOFF, DAVID F. On the Stability of the Galactic Magnetic Field in the Presence of a Magnetic Monopole Halo. *David F. Chernoff, Stuart L. Shapiro, & Ira Wasserman.* 304, 799, 65-A1 (1986)

Tidal Heating of Globular Clusters. *David F. Chernoff, Christopher S. Kochanek, & Stuart L. Shapiro.* 309, 183, 122-A4 (1986)

Magnetohydrodynamic Shocks in Molecular Clouds. *David F. Chernoff.* 312, 143, 2-E6 (1987)

Globular Cluster Evolution in the Galaxy: A Global View. *David F. Chernoff & Stuart L. Shapiro.* 322, 113, 139-B9 (1987)

CO Cooling Rates: Revised Calculations. *Paul J. Viscuso & David F. Chernoff.* 327, 364, 51-A5 (1988)

Supernova 1987A and the Emergence of the Hot Neutron Star: A Semianalytic Approach. *David F. Chernoff, Stuart L. Shapiro, & Ira Wasserman.* 337, 814, 29-B1 (1989)

An Analysis of the Distribution of Globular Clusters with Postcollapse Cores in the Galaxy. *David F. Chernoff & S. Djorgovski.* 339, 904, 63-A1 (1989)

Evolution of Globular Clusters in the Galaxy. *David F. Chernoff & Martin D. Weinberg.* 351, 121, 39-E9 (1990)

Gravitational Radiation from Colliding Clusters: Newtonian Simulations in Three Dimensions. *Christopher S. Kochanek, Stuart L. Shapiro, Saul A. Teukolsky, & David F. Chernoff.* 358, 81, 123-A10 (1990)

CHERRY, M. L. A Measurement of the Cosmic-Ray Primary Composition between 3×10^{13} and 3×10^{15} eV Using Underground Muons. *D. Cebula, S. C. Corbató, T. Daily, D. B. Kieda, K. Lande, C. K. Lee, & M. L. Cherry.* 358, 637, 131-D5 (1990)

CHESTER, T. A Model for the Emission from the Bulge of Our Galaxy. *M. Rowan-Robinson & T. Chester.* 313, 413, 19-E4 (1987)

CHESTER, T. J. Discovery of an Infrared-loud Quasar. *C. A. Beichman, B. T. Soifer, G. Helou, T. J. Chester, G. Neugebauer, F. C. Gillett, & F. J. Low.* 308, L1, 113-E11 (1986)

CHESTER, THOMAS J. Observation of the HH 1 and 2 Region with *IRAS*. *Steven H. Pravdo & Thomas J. Chester.* 314, 308, 31-D13 (1987)

CHEUNG, K. W. Molecular Gas in the Starburst Nucleus of M82. *K. Y. Lo, K. W. Cheung, C. R. Masson, T. G. Phillips, S. L. Scott, & D. P. Woody.* 312, 574, 9-B7 (1987)

CHEVALIER, R. A. Late Emission from SN 1987A. *C. Fransson & R. A. Chevalier.* 322, L15, 145-B2 (1987)

CHEVALIER, ROGER A. Are Pulsars Born as Slow Rotators? *Roger A. Chevalier & Robert T. Emmering.* 304, 140, 55-D8 (1986)

The Scattered Light Echo of a Supernova. *Roger A. Chevalier.* 308, 225, 110-E4 (1986)

Highly Ionized Atoms in Cooling Gas. *Richard J. Edgar & Roger A. Chevalier.* 310, L27, 138-C1 (1986)

High-Velocity Emission in Young Supernova Remnants: SN 1006 and SN 1572. *Robert P. Kirshner, P. Frank Winkler, & Roger A. Chevalier.* 315, L135, 49-F3 (1987)

The Evolution of Cooling Flows. I. Self-similar Cluster Flows. *Roger A. Chevalier.* 318, 66, 79-E14 (1987)

Shocked Relativistic Magnetohydrodynamic Flows with Application to Pulsar Winds. *Robert T. Emmering & Roger A. Chevalier.* 321, 334, 125-G10 (1987)

The Evolution of Cooling Flows. II. Galaxies and Galaxy Formation. *Roger A. Chevalier.* 329, 16, 75-B10 (1988)

Stability of Radiative Shocks with Time-dependent Cooling. *T. J. Gaetz, Richard J. Edgar, & Roger A. Chevalier.* 329, 927, 87-C3 (1988)

The Interstellar Light Echoes around SN 1987A. *Roger A. Chevalier & Robert T. Emmering.* 331, L105, 121-F7 (1988)

The Nature of S Andromedae (SN 1885A). *Roger A. Chevalier & Philip C. Plait.* 331, L109, 121-F11 (1988)

Circumstellar Infrared and Scattered Light Echoes from SN 1987A. *Robert T. Emmering & Roger A. Chevalier.* 338, 388, 37-F10 (1989)

Asymmetric Envelope Expansion of Supernova 1987A. *Roger A. Chevalier & Noam Soker.* 341, 867, 96-A1 (1989)

Illuminating a Red Supergiant Wind around SN 1987A. *Roger A. Chevalier & Robert T. Emmering.* 342, L75, 117-D5 (1989)

Late Emission from Supernovae: A Window on Stellar Nucleosynthesis. *Claes Fransson & Roger A. Chevalier.* 343, 323, 122-B10 (1989)

The Interaction of Supernovae with Circumstellar Bubbles. *Roger A. Chevalier & Edison P. Liang.* 344, 332, 137-B7 (1989)

The Intrinsic Luminosity and Initial Period of Pulsars. *Robert T. Emmering & Roger A. Chevalier.* 345, 931, 162-B5 (1989)

Neutron Star Accretion in a Supernova. *Roger A. Chevalier.* 346, 847, 177-G1 (1989)

The Gravitational Collapse of Gaseous Spheres and Galaxy Formation. *Roger A. Chevalier & Eric A. Lufkin.* 356, 41, 99-E3 (1990)

The Stability of an Accelerating Shock Wave in an Exponential Atmosphere. *Roger A. Chevalier.* 359, 463, 141-F13 (1990)

CHEVRETON, M. An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather,*

D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine. 357, 204, 113-E7 (1990)

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

CHHAJLANI, R. K. Effect of Suspended Particles on Magnetogravitational Instability of a Finitely Conducting, Rotating, Hall Gas-Particle Medium. *R. K. Chhajlani & P. Purohit.* 300, 242, 3-F1 (1986)

CHIAN, ABRAHAM C.-L. Nonlinear Generation of the Fundamental Radiation of Interplanetary Type III Radio Bursts. *Abraham C.-L. Chian & Maria V. Alves.* 330, L77, 97-B3 (1988)

CHIANG, WEI-HWAN. A Model for the Interaction between Stars and Gas in the Interstellar Medium. *Wei-Hwan Chiang & Joel N. Bregman.* 328, 427, 67-F5 (1988)

Evolution of the Intergalactic Medium in a Cold Dark Matter–dominated Universe. *Wei-Hwan Chiang, Dongsu Ryu, & Ethan T. Vishniac.* 339, 603, 59-D1 (1989)

A Model for the Distribution of the Intergalactic Medium. *Dongsu Ryu, Ethan T. Vishniac, & Wei-Hwan Chiang.* 354, 389, 81-C1 (1990)

CHIAPI, A. L. *EXOSAT* Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)

CHIAPPETTI, L. X-Ray Variability of the BL Lacertae Object PKS 2155−304 in the 0.1–6 keV Range. *M. Morini, L. Chiappetti, D. Maccagni, L. Maraschi, D. Molteni, E. G. Tanzi, A. Treves, & A. Wolter.* 306, L71, 93-G5 (1986)

Multifrequency Observations of the Blazar PKS 0537−441 in a Moderately Active State. *E. G. Tanzi, P. Barr, P. Bouchet, L. Chiappetti, S. Christiani, R. Falomo, P. Giommi, L. Maraschi, & A. Treves.* 311, L13, 152-B7 (1986)

X-Ray Spectrum and Variability of the Black Hole Candidate LMC X-3. *A. Treves, T. Belloni, L. Chiappetti, L. Maraschi, L. Stella, E. G. Tanzi, & M. van der Klis.* 325, 119, 20-D8 (1988)

The X-Ray to Infrared Energy Distribution of the Quasar PG 0026+129. *A. Treves, P. Bouchet, L. Chiappetti, A. Ciapi, R. Falomo, L. Maraschi, & E. G. Tanzi.* 330, 178, 92-A3 (1988)

The Ultraviolet-Optical-Infrared Energy Distribution of LMC X-3: Observation of an Accretion Disk around a Black Hole. *A. Treves, T. Belloni, P. Bouchet, L. Chiappetti, R. Falomo, L. Maraschi, & E. G. Tanzi.* 335, 142, 172-A1 (1988)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of the BL Lacertae Object PKS 2155−304. *A. Treves, M. Morini, L. Chiappetti, A. Fabian, R. Falomo, D. Maccagni, L. Maraschi, E. G. Tanzi, & G. Tagliaferri.* 341, 733, 94-D5 (1989)

X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215−086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

X-Ray and Ultraviolet Observations of the Seyfert Galaxy MCG 8-11-11. *A. Treves, G. Bonelli, L. Chiappetti, R. Falomo, L. Maraschi, G. Tagliaferri, & E. G. Tanzi.* 359, 98, 135-C7 (1990)

EXOSAT Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)

CHIEFFI, A. Are *s*-Elements Really Produced during Thermal Pulses in Intermediate-Mass Stars? *M. Busso, G. Picchio, R. Gallino, & A. Chieffi.* 326, 196, 34-C5 (1988)

The "Red Giant Clock" as an Indicator for the Efficiency of Central Mixing in Horizontal-Branch Stars. *F. Caputo, V. Castellani, A. Chieffi, L. Pulone, & A. Tornambè, Jr.* 340, 241, 70-A10 (1989)

Theoretical Models for Helium-burning Stars in Intermediate-Metallicity Globular Clusters. *V. Castellani, A. Chieffi, & L. Pulone.* 344, 239, 136-A3 (1989)

CHIEFFI, ALESSANDRO. Isochrones for Hydrogen-burning Globular Cluster Stars. I. The Metallicity Range $-2 \leq$ [Fe/H] ≤ -1. *Alessandro Chieffi & Oscar Straniero.* 71, 47, 33-G1 (1989)

The Evolution of Intermediate-Mass Stars through the H- and He-burning Phases. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 74, 463, 36-F11 (1990)

CHIKADA, Y. Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

Nuclear Concentration of Molecular Gas in the Late-Type Spiral Galaxy NGC 6946: 300 Parsec Scale Gaseous Disk. *S. Ishizuki, R. Kawabe, M. Ishiguro, S. K. Okumura, K.-I. Morita, Y. Chikada, T. Kasuga, & M. Doi.* 355, 436, 93-G3 (1990)

CHIKADA, YOSHIHIRO. Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M−0.13−0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)

Rotational Spectrum of the CCS Radical Studied by Laboratory Microwave Spectroscopy and Radio-astronomical Observations. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Yoshihiro Chikada, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 361, 318, 160-G7 (1990)

CHIN, CHAO-WEN. Limit on Overshooting from the Convective Core in Upper Main-Sequence Stars. *Richard B. Stothers & Chao-wen Chin.* 348, L21, 6-C1 (1990)

Tables and Intercomparisons of Evolutionary Sequences of Models for Massive Stars. *Chao-wen Chin & Richard B. Stothers.* 73, 821, 29-C11 (1990)

CHINCARINI, GUIDO L. Morphological Segregation in the Pisces-Perseus Supercluster. *Riccardo Giovanelli, Martha P. Haynes, & Guido L. Chincarini.* 300, 77, 1-F13 (1986)

CHIOSI, C. On the Post–Asymptotic Giant Branch Model for the Far-Ultraviolet Emission in Elliptical Galaxies. *G. Bertelli, C. Chiosi, & F. Bertola.* 339, 889, 62-F11 (1989)

CHIOSI, CESARE. The Distance Modulus of the Large Magellanic Cloud. *Cesare Chiosi & Luisa Pigatto.* 308, 1, 108-A9 (1986)

CHITRE, S. M. The Intensity Ratio in Different Wave Bands between Images of Gravitationally Lensed Quasars as a Probe of Dark Matter. *Kandaswamy Subramanian & S. M. Chitre.* 313, 13, 15-B5 (1987)

New Limits to Bias and the Amount of Dark Matter in the Universe. *William C. Saslaw, H. M. Antia, & S. M. Chitre.* 315, L1, 45-A4 (1987)

The Gravitational Lens System 2016+112 Revisited. *D. Narasimha, K. Subramanian, & S. M. Chitre.* 315, 434, 45-D11 (1987)

Giant Luminous Arcs in Galaxy Clusters. *D. Narasimha & S. M. Chitre.* 332, 75, 123-G9 (1988)

The Kinetic Evolution and Velocity Distribution of Gravitational Galaxy Clustering. *William C. Saslaw, S. M. Chitre, Makoto Itoh, & Shogo Inagaki.* 365, 419, 213-C1 (1990)

CHITWOOD, J. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

CHIU, HONG-YEE. Correlation Mass Method for Analysis of Neutrinos from Supernova 1987A. *Hong-Yee Chiu, Kwing L. Chan, & Yoji Kondo.* 329, 326, 78-F3 (1988)

Massive Soliton Stars. *Hong-Yee Chiu.* 354, 302, 77-G6 (1990)

Ponderable Soliton Stars. *Hong-Yee Chiu.* 365, 93, 207-C1 (1990)

Ponderable Soliton Stars and Cosmic Background Radiation. *Hong-Yee Chiu.* 365, 107, 207-D1 (1990)

CHIU, WEIHSUEH A. Highly Ionized Species and Circumstellar Shells in B8–A1 Stars. *Frederick C. Bruhweiler, C. A. Grady, & Weihsueh A. Chiu.* 340, 1038, 81-C1 (1989)

CHIUDERI, CLAUDIO. Extragalactic Jets as Current-carrying Systems. I. Equilibrium and Stability. *Claudio Chiuderi, Paola Pietrini, & Guidetta Torricelli Ciamponi.* 339, 70, 50-G8 (1989)

Nonresonant Resistive Dissipation of Incompressible Magnetohydrodynamic Waves. *Francesco Califano, Claudio Chiuderi, & Giorgio Einaudi.* 365, 757, 217-F5 (1990)

CHIUEH, TZIHONG. The Structure and Dissipation of Forced Current Sheets in the Solar Atmosphere. *Tzihong Chiueh & Ellen G. Zweibel.* 317, 900, 76-A7 (1987)

Thermal Coupling of Ions and Electrons by Collective Effects in Two-Temperature Accretion Flows. *Mitchell C. Begelman & Tzihong Chiueh.* 332, 872, 134-A8 (1988)

Multiple-Encounter Shock-Drift Acceleration in Nearly Perpendicular Shocks. *Tzihong Chiueh.* 333, 366, 142-B2 (1988)

Stability of Stressed Current Tubes and Energy Storage in the Solar Corona. *Tzihong Chiueh & Ellen G. Zweibel.* 338, 1158, 48-A1 (1989)

Numerical Studies of Multiple-Encounter Shock Drift Acceleration. *Tzihong Chiueh.* 341, 497, 90-A9 (1989)

CHLEBOWSKI, T. The *Einstein X-Ray Observatory* Catalog of O-Type Stars. *T. Chlebowski, F. R. Harnden, Jr., & S. Sciortino.* 341, 427, 89-B4 (1989)

X-Ray Emission from O-Type Stars: Parameters Which Affect It. *T. Chlebowski.* 342, 1091, 115-F1 (1989)

CHLEBOWSKI, TOMASZ. Photometry and Spectroscopy of Newly Discovered Polar: Nova Cygni 1975 (V 1500 Cygni). *Janusz Kałuzny & Tomasz Chlebowski.* 332, 287, 126-C9 (1988)

CHLEWICKI, G. Shapes and Correlations as Observational Discriminants for the Origin of Diffuse Bands. *G. Chlewicki, G. P. van der Zwet, L. J. van Ijzendoorn, & J. M. Greenberg.* 305, 455, 72-B5 (1986)

CHLEWICKI, GRZEGORZ. Interstellar Circular Polarization and the Dielectric Nature of Dust Grains. *Grzegorz Chlewicki & J. Mayo Greenberg.* 365, 230, 209-A9 (1990)

CHO, S. V Hydrae: A Carbon Star in Transformation to a Bipolar Nebula. *T. Tsuji, W. Unno, N. Kaifu, H. Izumiura, N. Ukita, S. Cho, & K. Koyama.* 327, L23, 53-C1 (1988)

CHOE, S.-U. A Pulsed Jet as the Source of Momentum in Bipolar Molecular Outflows. *S.-U. Choe & R. N. Henriksen.* 305, 131, 68-D5 (1986)

CHOKSHI, A. C II 158 Micron and O I 63 Micron Observations of NGC 7023: A Model for Its Photodisscoiation Region. *A. Chokshi, A. G. G. M. Tielens, M. Werner, & M. W. Castelaz.* 334, 803, 165-C6 (1988)

CHOKSHI, ARATI. The Red/Infrared Evolution in Galaxies—Effects of the Stars on the Asymptotic Giant Branch. *Arati Chokshi & Edward L. Wright.* 319, 44, 93-E1 (1987)

Confusion-limited Galaxy Fields. I. Simulated Optical and Near-Infrared Images. *Arati Chokshi & Edward L. Wright.* 333, 491, 145-C1 (1988)

Confusion-limited Galaxy Fields. II. Classical Analyses. *Arati Chokshi & Edward L. Wright.* 347, 16, 182-C6 (1989)

Infrared Images of Distant 3C Radio Galaxies. *Peter Eisenhardt & Arati Chokshi.* 351, L9, 43-B1 (1990)

CHOLFIN, BRYAN. CCD Camera Brightness Monitoring of Q0957+561A, B. *Rudolph E. Schild & Bryan Cholfin.* 300, 209, 3-C9 (1986)

CHOPRA, NAMRATA. Dependence of Pulsar Characteristics on the Spacetime Metric. *V. B. Bhatia, Namrata Chopra, Bhabani Majumdar, & N. Panchapakesan.* 326, 63, 32-F2 (1988)

CHOU, DEAN-YI. The Cooling Time Scales of Growing Sunspots. *Dean-Yi Chou.* 312, 955, 13-D5 (1987)

The Vertical Structure of Arch Filament Systems in Solar Emerging Flux Regions. *Dean-Yi Chou & Harold Zirin.* 333, 420, 142-F3 (1988)

Dynamics of Anchored Flux Tubes in the Convection Zone. I. Details of the Model. *Dean-Yi Chou & George H. Fisher.* 341, 533, 90-D5 (1989)

Dynamics of Anchored Flux Tubes in the Convection Zone. I. Details of the Model: Erratum. *Dean-Yi Chou & George H. Fisher.* 352, 780, 60-F10 (1990) (Orig. paper in 341, 533, 90-D5 (1989))

CHOUDHURI, A. R. The Possible Role of Meridional Flows in Suppressing Magnetic Buoyancy. *A. A. van Ballegooijen & A. R. Choudhuri.* 333, 965, 151-A1 (1988)

CHOUDHURI, ARNAB RAI. The Dynamics of Magnetically Trapped Fluids. I. Implications for Umbral Dots and Penumbral Grains. *Arnab Rai Choudhuri.* 302, 809, 39-E2 (1986)

Force-free Equilibria of Magnetized Jets: Erratum. *Arieh Königl & Arnab Rai Choudhuri.* 305, 954, 79-D10 (1986) (Orig. paper in 289, 173, 12-F14 (1985))

Magnetic Energy Dissipation in Force-free Jets. *Arnab Rai Choudhuri & Arieh Königl.* 310, 96, 133-B3 (1986)

The Influence of the Coriolis Force on Flux Tubes Rising through the Solar Convection Zone. *Arnab Rai Choudhuri & Peter A. Gilman.* 316, 788, 60-F7 (1987)

On the Possibility of an $\alpha^2\omega$–Type Dynamo in a Thin Layer inside the Sun. *Arnab Rai Choudhuri.* 355, 733, 97-F5 (1990)

CHRISTENSEN, C. S. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

CHRISTENSEN-DALSGAARD, J. Seismology of Solar Oscillation Line Widths. *J. Christensen-Dalsgaard, D. O. Gough, & K. G. Libbrecht.* 341, L103, 100-C9 (1989)

CHRISTENSEN-DALSGAARD, JØRGEN. Inferring the Sun's Internal Angular Velocity from Observed *p*-Mode Frequency Splittings. *Timothy M. Brown, Jørgen Christensen-Dalsgaard, Wojciech A. Dziembowski, Philip Goode, Douglas O. Gough, & Cherilynn A. Morrow.* 343, 526, 124-E6 (1989)

A Technique for Estimating Complicated Power Spectra from Time Series with Gaps. *Timothy M. Brown & Jørgen Christensen-Dalsgaard.* 349, 667, 23-E2 (1990)

CHRISTIAN, C. Peculiar Morphology of the High-Redshift Radio Galaxies 3C 13 and 3C 256 in Subarcsecond Seeing. *O. Le Fèvre, F. Hammer, L. Nottale, A. Mazure, & C. Christian.* 324, L1, 9-A4 (1988)

CHRISTIAN, C. A. Color-Magnitude Diagram of Palomar 4: CCD Photometry. *C. A. Christian & J. N. Heasley.* 303, 216, 43-D12 (1986)

Detection of the Lensing Galaxy in PG 1115+080. *C. A. Christian, D. Crabtree, & P. Waddell.* 312, 45, 1-D10 (1987)

CHRISTIAN, CAROL A. The Open Cluster NGC 2158: Erratum. *Carol A. Christian, J. N. Heasley, & Kenneth A. Janes.* 305, 954, 79-D10 (1986) (Orig. paper in 299, 683, 135-C13 (1985))

The Main-Sequence Color-Magnitude Diagram of M92. *J. N. Heasley & Carol A. Christian.* 307, 738, 105-A13 (1986)

CHRISTIAN, E. R. Evidence for Anomalous Cosmic-Ray Hydrogen. *E. R. Christian, A. C. Cummings, & E. C. Stone.* 334, L77, 169-D1 (1988)

CHRISTIANI, S. Multifrequency Observations of the Blazar PKS 0537−441 in a Moderately Active State. *E. G. Tanzi, P. Barr, P. Bouchet, L. Chiappetti, S. Christiani, R. Falomo, P. Giommi, L. Maraschi, & A. Treves.* 311, L13, 152-B7 (1986)

CHRISTIANI, STEFANO. Observations of Four Faint Quasars Surrounding the Tololo 1037−271/1038−272 Quasar Pair. *Peter Jakobsen, M. A. C. Perryman, & Stefano Christiani.* 326, 710, 41-D7 (1988)

CHRISTODOULOU, DIMITRIS M. What Warped Disks Can Tell Us about Galaxy Halos and Gravity. *Dimitris M. Christodoulou & Joel E. Tohline.* 307, 449, 101-E7 (1986)

The Crucial Role of Cooling in the Making of Molecular Clouds and Stars. *Joel E. Tohline, Peter H. Bodenheimer, & Dimitris M. Christodoulou.* 322, 787, 148-D9 (1987)

Star Formation via the Phase Transition of an Adiabatic Gas. *Joel E. Tohline & Dimitris M. Christodoulou.* 325, 699, 28-C1 (1988)

Phase Transition Time Scales for Cooling and Isothermal Media. *Dimitris M. Christodoulou & Joel E. Tohline.* 363, 197, 184-E7 (1990)

CHRISTOU, J. C. Two-dimensional Images of Alpha Orionis. *J. C. Hebden, J. C. Christou, A. Y. S. Cheng, E. K. Hege, P. A. Strittmatter, J. M. Beckers, & H. P. Murphy.* 309, 745, 129-D5 (1986)

CHRISTOU, JULIAN C. Multiwavelength Images of α Orionis. *Julian C. Christou, Jeremy C. Hebden, & E. Keith Hege.* 327, 894, 58-D8 (1988)

The Very Low Mass Triple System: G208–44AB and G208–45. *D. W. McCarthy, Jr., Todd J. Henry, Thomas A. Fleming, Rex A. Saffer, James Liebert, & Julian C. Christou.* 333, 943, 150-F1 (1988)

CHRYSICOPOULOU, P. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

CHU, YOU-HUA. Kinematic Detection of Supernova Remnants in Giant H II Regions. *You-Hua Chu & Robert C. Kennicutt, Jr.* 311, 85, 147-A4 (1986)

The Wolf-Rayet Population in 30 Doradus and Its Surroundings. *Anthony F. J. Moffat, Virpi S. Niemela, M. M. Phillips, You-Hua Chu, & Wilhelm Seggewiss.* 312, 612, 9-E7 (1987)

Multiple-Shell Planetary Nebulae. I. Morphologies and Frequency of Occurrence. *You-Hua Chu, George H. Jacoby, & Richard Arendt.* 64, 529, 24-C1 (1987)

The Composite Image of Sanduleak −69°202, Candidate Precursor to Supernova 1978A in the Large Magellanic Cloud. *Nolan R. Walborn, Barry M. Lasker, Victoria G. Laidler, & You-Hua Chu.* 321, L41, 129-E4 (1987)

A Kinematic Determination of the Structure of the Double Ring Planetary Nebula NGC 2392, the Eskimo. *C. R. O'Dell, Larry D. Weiner, & You-Hua Chu.* 362, 226, 172-A3 (1990)

X-Rays from Superbubbles in the Large Magellanic Cloud. *You-Hua Chu & Mordecai-Mark Mac Low.* 365, 510, 214-D9 (1990)

CHUBB, TALBOT A. Angular Momentum–limited Degenerate and Semidegenerate Neutrino Halos. *Talbot A. Chubb.* 305, 609, 75-E3 (1986)

CHUGAINOV, P. F. Further Evidence for Rotational Modulation of the Light from T Tauri Stars. *F. J. Vrba, A. E. Rydgren, P. F. Chugainov, N. I. Shakovskaya, & D. S. Zak.* 306, 199, 83-D10 (1986)

The Rotation Period and Inclination Angle of T Tauri. *W. Herbst, J. F. Booth, P. F. Chugainov, G. V. Zajtseva, W. Barksdale, E. Covino, L. Terranegra, A. Vittone, & F. Vrba.* 310, L71, 145-A13 (1986)

X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, N. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

CHUPP, E. L. Rapid Acceleration of Energetic Particles in the 1982 February 8 Solar Flare. *S. R. Kane, E. L. Chupp, D. J. Forrest, G. H. Share, & E. Rieger.* 300, L95, 13-G2 (1986)

Spectral Evolution of Pulse Structures in Gamma-Ray Bursts. *J. P. Norris, G. H. Share, D. C. Messina, B. R. Dennis, U. D. Desai, T. L. Cline, S. M. Matz, & E. L. Chupp.* 301, 213, 16-C7 (1986)

Solar Neutron Emissivity during the Large Flare on 1982 June 3. *E. L. Chupp, H. Debrunner, E. Flückiger, D. J. Forrest, F. Golliez, G. Kanbach, W. T. Vestrand, J. Cooper, & G. Share.* 318, 913, 91-A1 (1987)

Gamma-Ray Observations of the Crab Region Using a Coded-Aperture Telescope. *M. L. McConnell, P. P. Dunphy, D. J. Forrest, E. L. Chupp, & A. Owens.* 321, 543, 128-A13 (1987)

The Directivity of High-Energy Emission from Solar Flares. II. *Solar Maximum Mission* Observations. *W. Thomas Vestrand, D. J. Forrest, E. L. Chupp, E. Rieger, & G. H. Share.* 322, 1010, 151-A7 (1987)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Messina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 326, 717, 41-E1 (1988)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation: Erratum. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Massina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 331, 1078, 120-G4 (1988) (Orig. paper in 326, 717, 41-E1 (1988))

Search for Doppler-shifted Gamma-Ray Emission from SS 433 Using the *SMM* Spectrometer. *B. J. Geldzahler, G. H. Share, R. L. Kinzer, J. Magura, E. L. Chupp, & E. Rieger.* 342, 1123, 116-A5 (1989)

Gamma-Ray Observations of Cygnus X-1 and Cygnus X-3 Using a Coded-Aperture Telescope. *M. L. McConnell, D. J. Forrest, A. Owens, P. P. Dunphy, W. T. Vestrand, & E. L. Chupp.* 343, 317, 122-B2 (1989)

CHUPP, EDWARD L. Gamma-Ray Limits on ^{22}Na Production in Novae. *Mark D. Leising, Gerald H. Share, Edward L. Chupp, & Gottfried Kanbach.* 328, 755, 71-C13 (1988)

Foreword. *Edward L. Chupp.* 73, 1, 19-A6 (1990)

Emission Characteristics of Three Intense Solar Flares Observed in Cycle 21. *Edward L. Chupp.* 73, 213, 20-F1 (1990)

CHURCHWELL, E. Pre–Main-Sequence Stars in the Serpens Molecular Cloud. *E. Churchwell & J. Koornneef.* 300, 729, 11-B4 (1986)

Radio Emission from Galactic Wolf-Rayet Stars and the Structure of Wolf-Rayet Winds. *David C. Abbott, J. H. Bieging, E. Churchwell, & Ana V. Torres.* 303, 239, 43-F9 (1986)

The Excitation, Abundance, and Distribution of HNCO in Sagittarius B2. *E. Churchwell, D. Wood, P. C. Myers, & Roy V. Myers.* 305, 405, 71-E10 (1986)

Low-Mass, Pre–Main-Sequence Stars: The Infrared Emission from Circumstellar Dust. *M. G. Wolfire & E. Churchwell.* 315, 315, 43-C14 (1987)

Solar System–sized Condensations in the Orion Nebula. *E. Churchwell, M. Felli, D. O. S. Wood, & M. Massi.* 321, 516, 127-F11 (1987)

The Discovery of Nonthermal Radio Emission from Magnetic Bp–Ap Stars. *Stephen A. Drake, David C. Abbott, T. S. Bastian, J. H. Bieging, E. Churchwell, G. Dulk, & Jeffrey L. Linsky.* 322, 902, 149-F10 (1987)

Flux Densities of Ultracompact H II Regions at 3 Millimeters. *Douglas O. S. Wood, E. Churchwell, & C. J. Salter.* 325, 694, 28-B10 (1988)

Flux Densities of Ultracompact H II Regions at 7 Millimeters. *Douglas O. S. Wood, T. Handa, Y. Fukui, E. Churchwell, Y. Sofue, & T. Iwata.* 326, 884, 43-C2 (1988)

The Infrared Emission from Dust Surrounding Newly Formed O Stars. *E. Churchwell, M. G. Wolfire, & Douglas O. S. Wood.* 354, 247, 77-B11 (1990)

CHURCHWELL, E. B. A Survey of Radio Emission from Galactic OB Stars. *J. H. Bieging, David C. Abbott, & E. B. Churchwell.* 340, 518, 73-F1 (1989)

CHURCHWELL, ED. The Morphologies and Physical Properties of Ultracompact H II Regions. *Douglas O. S. Wood & Ed Churchwell.* 69, 831, 14-A1 (1989)

Massive Stars Embedded in Molecular Clouds: Their Population and Distribution in the Galaxy. *Douglas O. S. Wood & Ed Churchwell.* 340, 265, 70-C10 (1989)

Cometary Compact H II Regions Are Stellar-Wind Bow Shocks. *Dave Van Buren, Mordecai-Mark Mac Low, Douglas O. S. Wood, & Ed Churchwell.* 353, 570, 71-A8 (1990)

CHURYUMOV, KLIM I. Some Results of the Narrow-Band Photometry of Comet Halley (1986 III). *Klim I. Churyumov, Vera K. Rozenbush, Farid K. Rspayev, & Dmitry I. Gorodetsky.* 356, 687, 108-F13 (1990)

CIAMPA, D. A Search for Ultra–High-Energy Gamma Rays from Supernova 1987A. *D. Ciampa, D. J. Bird, R. W. Clay, P. G. Edwards, & R. J. Protheroe.* 326, L9, 38-B1 (1988)

Evidence for Ultra–High-Energy Gamma-Ray Emission from the Low-Mass X-Ray Binary 2A 1822–37.1. *D. Ciampa, R. W. Clay, & P. G. Edwards.* 346, 151, 168-A1 (1989)

CIAMPONI, GUIDETTA TORRICELLI. Extragalactic Jets as Current-carrying Systems. I. Equilibrium and Stability. *Claudio Chiuderi, Paola Pietrini, & Guidetta Torricelli Ciamponi.* 339, 70, 50-G8 (1989)

CIAPI, A. The X-Ray to Infrared Energy Distribution of the Quasar PG 0026+129. *A. Treves, P. Bouchet, L. Chiappetti, A. Ciapi, R. Falomo, L. Maraschi, & E. G. Tanzi.* 330, 178, 92-A3 (1988)

CIARDULLO, ROBIN. Bubbles and Braided Jets in Galaxies with Compact Radio Nuclei. *Holland C. Ford, Oved Dahari, George H. Jacoby, Patrick C. Crane, & Robin Ciardullo.* 311, L7, 152-A11 (1986)

The Spatial Distribution and Population of Novae in M31. *Robin Ciardullo, Holland C. Ford, James D. Neill, George H. Jacoby, & Allen W. Shafter.* 318, 520, 86-E6 (1987)

The Morphology of the Rich Supercluster 1451+22. *Robin Ciardullo.* 321, 607, 131-C1 (1987)

Planetary Nebulae as Standard Candles. II. The Calibration in M31 and Its Companions. *Robin Ciardullo, George H. Jacoby, Holland C. Ford, & James D. Neill.* 339, 53, 50-F1 (1989)

Planetary Nebulae as Standard Candles. III. The Distance to M81. *George H. Jacoby, Robin Ciardullo, Holland C. Ford, & John Booth.* 344, 704, 143-B1 (1989)

Planetary Nebulae as Standard Candles. IV. A Test in the Leo I Group. *Robin Ciardullo, George H. Jacoby, & Holland C. Ford.* 344, 715, 143-C2 (1989)

Planetary Nebulae as Standard Candles. V. The Distance to the Virgo Cluster. *George H. Jacoby, Robin Ciardullo, & Holland C. Ford.* 356, 332, 104-D6 (1990)

The Hα Light Curves of Novae in M31. *Robin Ciardullo, Allen W. Shafter, Holland C. Ford, James D. Neill, Michael M. Shara, & A. B. Tomaney.* 356, 472, 106-B10 (1990)

Planetary Nebulae as Standard Candles. VI. A Test in the Magellanic Clouds. *George H. Jacoby, Alistair R. Walker, & Robin Ciardullo.* 365, 471, 213-G7 (1990)

CIDALE, LYDIA. The Extended Atmosphere of λ Pavonis at the Time of the Emergence of H-Emissions from Minimum Intensity. *Jorge Sahade, Marta Rovira, Adela E. Ringuelet, Yoji Kondo, & Lydia Cidale.* 327, 335, 50-F1 (1988)

CIOCIO, A. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

CIOFFI, DENIS F. Dynamics of Radiative Supernova Remnants. *Denis F. Cioffi, Christopher F. McKee, & Edmund Bertschinger.* 334, 252, 157-B5 (1988)

Overpressured Cocoons in Extragalactic Radio Sources. *Mitchell C. Begelman & Denis F. Cioffi.* 345, L21, 157-B12 (1989)

The Growth of Density Perturbations in Radiative Shocks. *John M. Blondin & Denis F. Cioffi.* 345, 853, 161-C1 (1989)

CIOTTI, LUCA. X-Ray Evolution of Model Elliptical Galaxies. *Annibale D'Ercole, Alvio Renzini, Luca Ciotti, & Silvia Pellegrini.* 341, L9, 91-B1 (1989)

CLAAS, J. J. Non–Equilibrium Ionization Effects in the Supernova Remnant RCW 86. *J. J. Claas, A. Smith, J. S. Kaastra, P. A. J. de Korte, & A. Peacock.* 337, 399, 22-C6 (1989)

CLAMPIN, MARK. A Search for Interstellar [Fe X] toward SN 1987A. *Robert A. Malaney & Mark Clampin.* 335, L57, 185-C1 (1988)

CLARIÁ, JUAN J. The Giant Branch of the Open Cluster NGC 2539. *Juan J. Clariá & Emilio Lapasset.* 302, 656, 37-G1 (1986)

Washington Photometry of the Very Metal Poor Globular Cluster M68. *Dante Minniti & Juan J. Clariá.* 341, 186, 86-C1 (1989)

CLARK, GEORGE W. The Atmospheric Structure of the O-Type Giant Krzemiński's Star and the Mass of Its Companion Neutron Star Centaurus X-3. *George W. Clark, Joseph R. Minato, & Guozhu Mi.* 324, 974, 14-B14 (1988)

Discovery of a Cyclotron Absorption Line in the Spectrum of the Binary X-Ray Pulsar 4U 1538–52 Observed by *Ginga*. *George W. Clark, Jonathan W. Woo, Fumiaki Nagase, Kazuo Makishima, & Taro Sakao.* 353, 274, 65-E8 (1990)

CLARK, M. LB 1800: A Bright Eclipsing Cataclysmic Variable and a Transient X-Ray Source. *D. A. H. Buckley, D. J. Sullivan, R. A. Remillard, I. R. Tuohy, & M. Clark.* 355, 617, 96-C1 (1990)

CLARK, R. E. H. Distorted Wave Collision Strengths for n–n' Transitions in Hydrogenic Ions. *R. E. H. Clark.* 354, 382, 79-A3 (1990)

CLARK, R. W. A Model of the Pre-Sedov Expansion Phase of Supernova Remnant–Ambient Plasma Coupling and X-Ray Emission from SN 1987A. *D. S. Spicer, R. W. Clark, & S. P. Maran.* 356, 549, 107-B4 (1990)

CLARK, T. A. Solar Brightness Temperature at Submillimeter Wavelengths. *R. T. Boreiko & T. A. Clark.* 318, 445, 83-G2 (1987)

CLARKE, C. J. Thermal Light Variations of Active Galactic Nuclei. *C. J. Clarke & G. A. Shields.* 338, 32, 33-D1 (1989)

CLARKE, DAVID A. Limb Brightening and Filamentation in the Inner Radio Jet of Centaurus A. *David A. Clarke, Jack O. Burns, & Eric D. Feigelson.* 300, L41, 13-C1 (1986)

Numerical Simulations of a Magnetically Confined Jet. *David A. Clarke, Michael L. Norman, & Jack O. Burns.* 311, L63, 160-D2 (1986)

Numerical Observations of a Simulated Jet with a Passive Helical Magnetic Field. *David A. Clarke, Michael L. Norman, & Jack O. Burns.* 342, 700, 111-B10 (1989)

CLARKE, JOHN T. Far-Ultraviolet and Optical Spectrophotometry of X-Ray Selected Seyfert Galaxies. *John T. Clarke, Stuart Bowyer, & Michael Grewing.* 305, 167, 68-F12 (1986)

Time-resolved Spectrophotometry of the AM Herculis System E2003+225. *Patrick McCarthy, Stuart Bowyer, & John T. Clarke.* 311, 873, 157-C12 (1986)

Line Formation in the Hot Spot Region of Cataclysmic Variable Accretion Disks. *Moshe Elitzur, John T. Clarke, & T. R. Kallman.* 324, 405, 5-F1 (1988)

CLAUS, R. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

CLAUSEN, JENS VIGGO. New Strong Evidence for the Importance of Convective Overshooting in Intermediate-Mass Stars. *Johannes Anderson, Birgitta Nordström, & Jens Viggo Clausen.* 363, L33, 193-E7 (1990)

CLAUSSEN, M. J. High-Resolution Mapping of Molecular Outflows in NGC 2071, W49, and NGC 7538. *N. Z. Scoville, A. I. Sargent, D. B. Sanders, M. J. Claussen, C. R. Masson, K. Y. Lo, & T. G. Phillips.* 303, 416, 45-F2 (1986)

Carbon Monoxide Emission from Stars in the *IRAS* and Revised AFGL Catalogs. II. Massive Carbon Stars. *B. Zuckerman, H. M. Dyck, & M. J. Claussen.* 304, 401, 58-C4 (1986)

Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)

Circumnuclear Water Vapor Masers in Active Galaxies. *M. J. Claussen & K. Y. Lo.* 308, 592, 115-D8 (1986)

The Molecular Content of Interacting and Isolated Galaxies: The Effect of Environment on the Efficiency of Star Formation. *Judith S. Young, Jeffrey D. Kenney, Linda Tacconi, M. J. Claussen, Y.-L. Huang, Lowell Tacconi-Garman, Shuding Xie, & F. Peter Schloerb.* 311, L17, 152-B11 (1986)

Water Masers Associated with Low-Mass Stars: A Survey of the Rho Ophiuchi Infrared Cluster. *B. A. Wilking & M. J. Claussen.* 320, L133, 121-E4 (1987)

A Flux-limited Sample of Galactic Carbon Stars. *M. J. Claussen, S. G. Kleinmann, R. R. Joyce, & M. Jura.* 65, 385, 33-F1 (1987)

Molecular Clouds in the Nuclear Region of NGC 3079. *Judith S. Young, M. J. Claussen, & Nick Z. Scoville.* 324, 115, 2-C6 (1988)

Molecular Outflows Associated with Bright Far-Infrared Sources. *Ronald L. Snell, Y.-L. Huang, Robert L. Dickman, & M. J. Claussen.* 325, 853, 29-G11 (1988)

Molecular and Ionized Gas in the Peculiar Galaxy NGC 2146. *Judith S. Young, M. J. Claussen, S. G. Kleinmann, Vera C. Rubin, & Nick Scoville.* 331, L81, 121-D4 (1988)

No Molecular Gas Disk in S106. *M. Barsony, N. Z. Scoville, J. Bally, & M. J. Claussen.* 343, 212, 120-G4 (1989)

The Sagittarius B2 Star-forming Region: Subarcsecond Radio Spectral Line and Continuum Observations. *Ralph A. Gaume & M. J. Claussen.* 351, 538, 46-G1 (1990)

The Circumstellar Environment of the Emission-Line Star, LkHα 101. *M. Barsony, N. Z. Scoville, J. M. Schombert, & M. J. Claussen.* 362, 674, 179-B6 (1990)

High Spectral Resolution Observations and Kinematic Modeling of the 1667 MHz Hyperfine Transition of OH in Comets Halley (1982i), Giacobini-Zinner (1984e), Hartley-Good (1985l), Thiele (1985m), and Wilson (1986l). *L. E. Tacconi-Garman, F. Peter Schloerb, & M. J. Claussen.* 364, 672, 204-E1 (1990)

CLAUSSEN, MARK J. HCN Emission from Bipolar Reflection Nebulae. *Shuji Deguchi, Mark J. Claussen, & Paul F. Goldsmith.* 303, 810, 51-D3 (1986)

CLAVEL, J. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

The Fading of the Narrow-Line Region in 3C 390.3. *J. Clavel & W. Wamsteker.* 320, L9, 114-A12 (1987)

A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V. Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)

The Fading of the Narrow-Line Region in 3C 390.3: Erratum. *J. Clavel & W. Wamsteker.* 330, L81, 97-B7 (1988) (Orig. paper in 320, L9, 114-A12 (1987))

Hot Dust on the Outskirts of the Broad-Line Region in Fairall 9. *J. Clavel, W. Wamsteker, & I. S. Glass.* 337, 236, 20-C7 (1989)

CLAVER, C. F. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

CLAY, R. W. A Search for Ultra–High-Energy Gamma Rays from Supernova 1987A. *D. Ciampa, D. J. Bird, R. W. Clay, P. G. Edwards, & R. J. Protheroe.* 326, L9, 38-B1 (1988)

Evidence for Ultra–High-Energy Gamma-Ray Emission from the Low-Mass X-Ray Binary 2A 1822−37.1. *D. Ciampa, R. W. Clay, & P. G. Edwards.* 346, 151, 168-A1 (1989)

CLAYTON, DONALD D. Secondary Metallicity in Analytic Models of Chemical Evolution of Galaxies. *Donald D. Clayton & Irini Pantelaki.* 307, 441, 101-D13 (1986)

Interstellar Fossil ^{26}Mg and Its Possible Relationship to Excess Meteoritic ^{26}Mg. *Donald D. Clayton.* 310, 490, 137-D2 (1986)

Galactic Chemical Evolution: z versus $\ln(1/\mu)$ Relationship. *Donald D. Clayton.* 315, 451, 45-F1 (1987)

Positron Annihilation Gamma Rays from Novae. *Mark D. Leising & Donald D. Clayton.* 323, 159, 154-G4 (1987)

Isotopic Anomalies: Chemical Memory of Galactic Evolution. *Donald D. Clayton.* 334, 191, 156-D4 (1988)

Origin of Heavy Xenon in Meteoritic Diamonds. *Donald D. Clayton.* 340, 613, 74-G5 (1989)

Stochastic Evolution of Refractory Interstellar Dust during the Chemical Evolution of a Two-Phase Interstellar Medium. *Kurt Liffman & Donald D. Clayton.* 340, 853, 79-B1 (1989)

Age Structure of Refractory Interstellar Dust and Isotopic Consequences. *Donald D. Clayton, Paul Scowen, & Kurt Liffman.* 346, 531, 172-F11 (1989)

CLAYTON, G. C. R Coronae Borealis Dust Ejections: A Preferred Plane? *S. A. Stanford, G. C. Clayton, M. R. Meade, K. H. Nordsieck, B. A. Whitney, M. A. Murison, M. A. Nook, & C. M. Anderson.* 325, L9, 25-A14 (1988)

CLAYTON, GEOFFREY C. On the Relationship between Optical Polarization and Extinction. *Geoffrey C. Clayton & John S. Mathis.* 327, 911, 58-E11 (1988)

The Determination of Ultraviolet Extinction from the Optical and Near-Infrared. *Jason A. Cardelli, Geoffrey C. Clayton, & John S. Mathis.* 329, L33, 81-C11 (1988)

The Relationship between Infrared, Optical, and Ultraviolet Extinction. *Jason A. Cardelli, Geoffrey C. Clayton, & John S. Mathis.* 345, 245, 152-B9 (1989)

CLEARY, PAUL W. Periodic Orbits in the Schwarzschild Galactic Potential. *Paul W. Cleary.* 337, 108, 18-D5 (1989)

Toward a Realistic Three-Body Problem. *Paul W. Cleary & Joseph J. Monaghan.* 349, 150, 15-G1 (1990)

CLEGG, P. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

CLEGG, P. E. Quasars Measured by the *Infrared Astronomical Satellite*. *G. Neugebauer, G. K. Miley, B. T. Soifer, & P. E. Clegg.* 308, 815, 117-G7 (1986)

CLEGG, R. E. S. The Planetary Nebula NGC 3918. *R. E. S. Clegg, J. P. Harrington, M. J. Barlow, & J. R. Walsh.* 314, 551, 35-E7 (1987)

CLEMENS, D. P. Massachusetts–Stony Brook Galactic Plane CO Survey. I. (b,V) Maps of the First Galactic Quadrant. *D. B. Sanders, D. P. Clemens, N. Z. Scoville, & P. M. Solomon.* 60, 1, 1-A3 (1986)

Massachusetts–Stony Brook Galactic Plane CO Survey. II. (l,V) Maps of the First Galactic Quadrant. *D. P. Clemens, D. B. Sanders, N. Z. Scoville, & P. M. Solomon.* 60, 297, 4-A5 (1986)

The Lynds 204 Complex: Magnetic Field Controlled Evolution? *W. H. McCutcheon, F. J. Vrba, R. L. Dickman, & D. P. Clemens.* 309, 619, 128-A11 (1986)

High-Mass Star Formation Due to Cloud-Cloud Collisions. *N. Z. Scoville, D. B. Sanders, & D. P. Clemens.* 310, L77, 145-B4 (1986)

Where Massive Stars Form: Associated Radio H II Regions and CO Clouds in the Northern Milky Way. *W. H. Waller, D. P. Clemens, D. B. Sanders, & N. Z. Scoville.* 314, 397, 32-E4 (1987)

Molecular Clouds and Cloud Cores in the Inner Galaxy. *N. Z. Scoville, Min Su Yun, D. P. Clemens, D. B. Sanders, & W. H. Waller.* 63, 821, 13-G12 (1987)

High-Excitation SiO Masers in Evolved Stars. *P. R. Jewell, Dale F. Dickinson, L. E. Snyder, & D. P. Clemens.* 323, 749, 163-A1 (1987)

The Large-Scale Distribution of Molecular Gas in the First Galactic Quadrant. *D. P. Clemens, D. B. Sanders, & N. Z. Scoville.* 327, 139, 48-E1 (1988)

CLEMENS, DAN P. A Catalog of Small, Optically Selected Molecular Clouds: Optical, Infrared, and Millimeter Properties. *Dan P. Clemens & Richard Barvainis.* 68, 257, 27-A1 (1988)

The Optical Counterpart of the X-Ray Source H0253+193: A Distant, High-Luminosity RS Canum Venaticorum System. *Dan P. Clemens & Robert W. Leach.* 345, 346, 153-D7 (1989)

Star Formation in Small Globules: Bart Bok Was Correct! *João Lin Yun & Dan P. Clemens.* 365, L73, 219-E1 (1990)

CLEMENS, J. C. An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather, D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine.* 357, 204, 113-E7 (1990)

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

The Whole Earth Telescope: A New Astronomical Instrument. *R. E. Nather, D. E. Winget, J. C. Clemens, C. J. Hansen, & B. P. Hine.* 361, 309, 160-F11 (1990)

CLEMENS, J. CHRISTOPHER. Detection of the Optical Counterparts of the 555 Second X-Ray Pulsations from V471 Tauri. *Edward L.*

Robinson, J. Christopher Clemens, & Butler P. Hine. 331, L29, 114-C6 (1988)

CLEMENT, MAURICE J. Normal Modes of Oscillation for Rotating Stars. III. Variational Calculations with an Improved Set of Basis Vectors. *Maurice J. Clement.* 301, 185, 16-A5 (1986)

Normal Modes of Oscillation for Rotating Stars. IV. Nonaxisymmetric Variational Solutions for 15 $M_\odot$ Models. *Maurice J. Clement.* 339, 1022, 64-C10 (1989)

CLEVELAND, B. T. Homestake Mine Experiments and Weakly Interacting Particles in the Universe. *E. L. Fireman, B. T. Cleveland, & H. Überall.* 326, 645, 40-F8 (1988)

CLIFTON, T. R. Neutral Hydrogen Absorption Observations toward High-Dispersion Measure Pulsars. *T. R. Clifton, D. A. Frail, Shrinivas R. Kulkarni, & J. M. Weisberg.* 333, 332, 141-F7 (1988)

A Kinematic Distance to the Supernova Remnant G33.6+0.1. *D. A. Frail & T. R. Clifton.* 336, 854, 13-B1 (1989)

CLINE, DAVID B. Fine-Scale Anisotropy of Cosmic γ-Ray Background to Identify the Underlying Generation Process. *David B. Cline & Yi-Tian Gao.* 348, 33, 1-D10 (1990)

Fine-Scale Anisotropy of Cosmic γ-Ray Background to Identify the Underlying Generation Process: Erratum. *David B. Cline & Yi-Tian Gao.* 356, 744, 109-D9 (1990) (Orig. paper in 348, 33, 1-D10 (1990))

The Cosmological Evolution Models of Active Galaxies and the Extragalactic Gamma-Ray Background. *Yi-Tian Gao, David B. Cline, & Floyd W. Stecker.* 357, L1, 115-B1 (1990)

Large-Scale Anisotropy in the Extragalactic Gamma-Ray Background as a Probe for Cosmological Antimatter. *Yi-Tian Gao, Floyd W. Stecker, Marcelo Gleiser, & David B. Cline.* 361, L37, 168-B1 (1990)

CLINE, T. A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

CLINE, T. L. Spectral Evolution of Pulse Structures in Gamma-Ray Bursts. *J. P. Norris, G. H. Share, D. C. Messina, B. R. Dennis, U. D. Desai, T. L. Cline, S. M. Matz, & E. L. Chupp.* 301, 213, 16-C7 (1986)

Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806−20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

A 2.2 Second Period in the 1984 August 3 Gamma-Ray Burst. *C. Kouveliotou, U. D. Desai, T. L. Cline, B. R. Dennis, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 330, L101, 104-G1 (1988)

CLINE, THOMAS L. Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

CLIVER, E. W. Solar Filament Eruptions and Energetic Particle Events. *S. W. Kahler, E. W. Cliver, H. V. Cane, R. E. McGuire, R. G. Stone, & N. R. Sheeley, Jr.* 302, 504, 33-F9 (1986)

Solar Gradual Hard X-Ray Bursts and Associated Phenomena. *E. W. Cliver, B. R. Dennis, A. L. Kiplinger, S. R. Kane, D. F. Neidig, N. R. Sheeley, Jr., & M. J. Koomen.* 305, 920, 79-A12 (1986)

Solar Flare Nuclear Gamma Rays and Interplanetary Proton Events. *E. W. Cliver, D. J. Forrest, H. V. Cane, D. V. Reames, R. E. McGuire, T. T. von Rosenvinge, S. R. Kane, & R. J. MacDowall.* 343, 953, 131-A1 (1989)

A 154 Day Periodicity in the Occurrence Rate of Proton Flares. *T. Bai & E. W. Cliver.* 363, 299, 185-G6 (1990)

CLOCCHIATTI, A. SN 1987A: A Linear Polarimetric Study. *M. Méndez, A. Clocchiatti, O. G. Benvenuto, C. Feinstein, & H. G. Marraco.* 334, 295, 157-F1 (1988)

CLOUTMAN, LAWRENCE D. A New Estimate of the Mixing Length and Convective Overshooting in Massive Stars. *Lawrence D. Cloutman.* 313, 699, 24-D8 (1987)

Numerical Evaluation of the Fermi-Dirac Integrals. *Lawrence D. Cloutman.* 71, 677, 45-E1 (1989)

COATES, D. W. Radio Emission from EA Eclipsing Binaries: Evidence for Kilogauss Surface Fields on Both Early-Type and Late-Type Stars. *R. T. Stewart, O. B. Slee, Graeme L. White, E. Budding, D. W. Coates, K. Thompson, & John D. Bunton.* 342, 463, 106-D7 (1989)

COBB, MICHAEL L. Infrared Spectroscopy of IRC +10420. *John D. Fix & Michael L. Cobb.* 312, 290, 4-B1 (1987)

Infrared Speckle Interferometry and Imaging of Several OH/IR Stars. *Michael L. Cobb & John D. Fix.* 315, 325, 43-D10 (1987)

The Structure of Circumstellar Shells. *John D. Fix & Michael L. Cobb.* 329, 290, 78-C2 (1988)

COBB, W. K. Linear Polarization of Radiation from Oblique and Conical Shocks. *T. V. Cawthorne & W. K. Cobb.* 350, 536, 32-G11 (1990)

COCHRAN, A. L. Supernovae 1983i and 1983v: Evidence for Abundance Variations in Type Ib Supernovae. *J. C. Wheeler, R. P. Harkness, E. S. Barker, A. L. Cochran, & D. Wills.* 313, L69, 27-C11 (1987)

The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault.* 317, 355, 67-F14 (1987)

COCHRAN, WILLIAM D. Confirmation of Radial Velocity Variability in Arcturus. *William D. Cochran.* 334, 349, 158-D1 (1988)

COCITO, A. On the Dependence of Far-Infrared and Radio Continuum Luminosities on Hubble Type in Spiral Galaxies. *G. Gavazzi, A. Cocito, & G. Vettolani.* 305, L15, 74-B3 (1986)

COCKE, W. J. Diameter and Limb-darkening Measures for Alpha Orionis. *A. Y. S. Cheng, E. K. Hege, E. N. Hubbard, L. Goldberg, P. A. Strittmatter, & W. J. Cocke.* 309, 737, 129-C11 (1986)

Uncertainties in 21 centimeter Redshifts. I. Data. *W. G. Tifft & W. J. Cocke.* 67, 1, 10-B1 (1988)

Quantization of Redshift Differences in Isolated Galaxy Pairs. *W. G. Tifft & W. J. Cocke.* 336, 128, 2-E13 (1989)

Redshift Quantization in the Lyα Forest and the Measurement of q_0. *W. J. Cocke & W. G. Tifft.* 346, 613, 175-B1 (1989)

CODINA, S. J. A Spectroscopic Study of Nova Centauri 1986. *J. A. de Freitas Pacheco, Roberto Dell'Agio Dias da Costa, & S. J. Codina.* 347, 483, 188-A7 (1989)

CODINA-LANDABERRY, S. J. The Chemical Composition of the Emitting Gas in HM Sagittae. *J. A. de Freitas Pacheco, S. J. Codina-Landaberry, & Dalton F. Lopes.* 337, 520, 24-A1 (1989)

CODONA, J. L. Refractive Scintillation in the Interstellar Medium. *W. A. Coles, R. G. Frehlich, B. J. Rickett, & J. L. Codona.* 315, 666, 48-A1 (1987)

COE, M. J. A New Narrow-Line Seyfert 1 Galaxy: IRAS 1652+395. *L. Bassani, M. J. Coe, M. A. Malkan, N. Mandolesi, B. Partridge, & L. Spinoglio.* 344, 726, 143-D2 (1989)

COHEN, ALEXANDER P. Topology of Large-Scale Structure. IV. Topology in Two Dimensions. *Adrian L. Melott, Alexander P.*

Cohen, Andrew J. S. Hamilton, J. Richard Gott III, & David H. Weinberg. 345, 618, 158-D1 (1989)

COHEN, J. G. The C, N, and O Abundances of Giant Stars in ω Centauri. *J. G. Cohen & R. A. Bell.* 305, 698, 76-E1 (1986)

The Distance to M5 from Its RR Lyrae Variables. *J. G. Cohen & G. A. Gordon.* 318, 215, 81-C4 (1987)

The Optical/Infrared Counterpart(s) of IRAS 18333–2357. *F. C. Gillett, G. H. Jacoby, R. R. Joyce, J. G. Cohen, G. Neugebauer, B. T. Soifer, T. Nakajima, & K. Matthews.* 338, 862, 44-F1 (1989)

The Peculiar Planetary Nebula in M22. *J. G. Cohen & F. C. Gillett.* 346, 803, 177-C10 (1989)

COHEN, JEFFREY M. Gamma-Ray Pulsar Model. *Jeffrey M. Cohen & Errol Mustafa.* 319, 930, 105-B5 (1987)

COHEN, JUDITH. A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

COHEN, JUDITH G. Blue Straggler Stars in the Globular Cluster NGC 5053. *James M. Nemec & Judith G. Cohen.* 336, 780, 12-A6 (1989)

Slow Expansion of the Shell of the Recurrent Nova T Pyxidis and Detection of a Faint Extended Envelope. *Michael M. Shara, Anthony F. J. Moffat, Robert E. Williams, & Judith G. Cohen.* 337, 720, 28-A1 (1989)

COHEN, M. Infrared Observations of SN 1987A from 5.3 to 12.6 Microns: Evidence for an Early Dust Echo. *D. M. Rank, J. Bregman, F. C. Witteborn, M. Cohen, D. K. Lynch, & R. W. Russell.* 325, L1, 25-A4 (1988)

Spectral Line Profiles of Nickel and Argon in Supernova 1987A: Expansion Velocity and Electron Scattering Effects. *F. C. Witteborn, J. D. Bregman, D. H. Wooden, P. A. Pinto, D. M. Rank, S. E. Woosley, & M. Cohen.* 338, L9, 40-C1 (1989)

New Emission Features in the 11–13 Micron Region and Their Relationship to Polycyclic Aromatic Hydrocarbons. *F. C. Witteborn, S. A. Sandford, J. D. Bregman, L. J. Allamandola, M. Cohen, D. H. Wooden, & A. L. Graps.* 341, 270, 87-C5 (1989)

Mid-Infrared Spectra of WC 9 Stars: The Composition of Circumstellar and Interstellar Dust. *M. Cohen, A. G. G. M. Tielens, & J. D. Bregman.* 344, L13, 140-B5 (1989)

The Anomalous 3.43 and 3.53 Micron Emission Features toward HD 97048 and Elias 1: C-C Vibrational Modes of Polycyclic Aromatic Hydrocarbons? *W. A. Schutte, A. G. G. M. Tielens, L. J. Allamandola, M. Cohen, & D. H. Wooden.* 360, 577, 153-D5 (1990)

Hydrocarbon Emission Features in the Infrared Spectra of Warm Supergiants. *R. H. Buss, Jr., M. Cohen, A. G. G. M. Tielens, M. W. Werner, J. D. Bregman, F. C. Witteborn, D. Rank, & S. A. Sandford.* 365, L23, 212-C6 (1990)

COHEN, M. H. The Evolution of the Compact Radio Source in 3C 345. I. VLBI Observations. *J. A. Biretta, R. L. Moore, & M. H. Cohen.* 308, 93, 109-B2 (1986)

Evolution of 3C 273 at 10.7 GHz. *M. H. Cohen, J. A. Zensus, J. A. Biretta, G. Comoretto, P. Kaufmann, & Z. Abraham.* 315, L89, 49-B11 (1987)

Superluminal Motion in the Quasar 3C 279. *S. C. Unwin, M. H. Cohen, J. A. Biretta, M. W. Hodges, & J. A. Zensus.* 340, 117, 68-E6 (1989)

COHEN, MARSHALL. VLBI Imaging of CTA 102. *Ann E. Wehrle & Marshall Cohen.* 346, L69, 181-C9 (1989)

COHEN, MARSHALL H. Expanding Quasars and the Expansion of the Universe. *Marshall H. Cohen, Peter D. Barthel, Timothy J. Pearson, & J. Anton Zensus.* 329, 1, 75-A9 (1988)

Detection of Superluminal Motion in the Core-dominated Quasar 0106+013. *Ann E. Wehrle, Marshall H. Cohen, & Stephen C. Unwin.* 351, L1, 43-A7 (1990)

COHEN, MARTIN. The Infrared Emission Bands. I. Correlation Studies and the Dependence on C/O Ratio. *Martin Cohen, Lou Allamandola, A. G. G. M. Tielens, Jesse Bregman, J. P. Simpson, Fred C. Witteborn, Diane Wooden, & Dave Rank.* 302, 737, 38-F10 (1986)

The Exciting Star of HH 57. *Martin Cohen, Michael A. Dopita, & Richard Schwartz.* 302, L55, 40-E4 (1986)

Optical Spectroscopy of HH-exciting Stars from Scattered Light Continua. *Martin Cohen, Michael A. Dopita, & Richard D. Schwartz.* 307, L21, 100-B8 (1986)

Observations of Jets from Low-Luminosity Stars: DG Tauri B. *B. F. Jones & Martin Cohen.* 311, L23, 152-C4 (1986)

IRAS Observations of the Exciting Stars of Herbig-Haro Objects. *Martin Cohen & Richard D. Schwartz.* 316, 311, 53-D3 (1987)

Observations of Jets from Low-Luminosity Stars. II. SVS 12, HH 30, Near HL Tauri, and HH 34. *Martin Cohen & B. F. Jones.* 321, 846, 133-F13 (1987)

Optical Spectroscopy of *IRAS* Sources with Infrared Emission Bands: IRAS 21282+5050 and the Diffuse Interstellar Bands. *Martin Cohen & B. F. Jones.* 321, L151, 137-E1 (1987)

Near-Infrared H_2 Emission from Herbig-Haro Objects. I. A Survey of Low-Excitation Objects. *Richard D. Schwartz, Martin Cohen, & Peredur M. Williams.* 322, 403, 142-C2 (1987)

Observations of the 63 Micron [O I] Line in Herbig-Haro Objects. *Martin Cohen, David J. Hollenbach, Michael R. Haas, & Edwin F. Erickson.* 329, 863, 86-E1 (1988)

Near-Infrared H_2 Emission from Herbig-Haro Objects. I. A Survey of Low-Excitation Objects: Erratum. *Richard D. Schwartz, Martin Cohen, & Peredur M. Williams.* 333, 1035, 151-F14 (1988) (Orig. paper in 322, 403, 142-C2 (1987))

High-Resolution Infrared Molecular Hydrogen Images and Optical Images of Herbig-Haro Object 43. *Richard D. Schwartz, Peredur M. Williams, Martin Cohen, & Donald G. Jennings.* 334, L99, 169-E10 (1988)

A Reexamination of Luminosity Sources in T Tauri Stars. I. Taurus-Auriga. *Martin Cohen, J. P. Emerson, & C. A. Beichman.* 339, 455, 55-E11 (1989)

The Infrared Emission Bands. III. Southern *IRAS* Sources. *Martin Cohen, A. G. G. M. Tielens, Jesse Bregman, Fred C. Witteborn, David M. Rank, L. J. Allamandola, Dianne Wooden, & M. de Muizon.* 341, 246, 87-A7 (1989)

Optical Spectroscopy of *IRAS* Sources with Infrared Emission Bands. II. IRAS 04324+5106, 06114+1745, 20319+3958, and 22539+5758. *Martin Cohen, B. F. Jones, & H. J. Walker.* 341, 908, 96-D8 (1989)

IRAS Observations of the Exciting Stars of Herbig-Haro Objects. II. The Reipurth and Graham Sample and Low-Resolution Spectra. *Martin Cohen.* 354, 701, 85-A3 (1990)

IRAS Observations of the Exciting Stars of Herbig-Haro Objects. II. The Reipurth and Graham Sample and Low-Resolution Spectra. *Martin Cohen.* 362, 758, 180-C1 (1990) (Orig. paper in 354, 701, 85-A3 (1990))

COHEN, N. L. Ultraviolet, Optical, Infrared, and Microwave Observations of HR 5110. *I. R. Little-Marenin, Theodore Simon, T. R. Ayres, N. L. Cohen, P. A. Feldman, J. L. Linsky, S. J. Little, & R. Lyons.* 303, 780, 51-B1 (1986)

VLBI Observations of 23 Hot Spots in the Starburst Galaxy M82. *N. Bartel, M. I. Ratner, A. E. E. Rogers, I. I. Shapiro, R. J. Bonometti, N. L. Cohen, M. V. Gorenstein, J. M. Marcaide, & R. A. Preston.* 323, 505, 160-B3 (1987)

VLBI Observations of the Gravitational Lens System 0957+561: Structure and Relative Magnification of the A and B Images. *M. V. Gorenstein, N. L. Cohen, I. I. Shapiro, A. E. E. Rogers, R. J. Bonometti, E. E. Falco, N. Bartel, & J. M. Marcaide.* 334, 42, 154-E1 (1988)

COHEN, R. Sandqvist 187: A Dense Molecular Cloud in Norma. *H. Alvarez, L. Bronfman, R. Cohen, G. Garay, J. Graham, & P. Thaddeus.* 300, 756, 11-D8 (1986)

COHEN, R. C. Laboratory Measurement of the Pure Rotational Spectrum of Vibrationally Excited HCO^+ ($v = 1$) by Far-Infrared Laser Sideband Spectroscopy. *Geoffrey A. Blake, K. B. Laughlin, R. C. Cohen, Kerry L. Busarow, & R. J. Saykally.* 316, L45, 56-D7 (1987)

COHEN, R. S. Molecular Clouds and Star Formation in the Inner Galaxy: A Comparison of CO, H II, and Far-Infrared Surveys. *P. C. Myers, T. M. Dame, P. Thaddeus, R. S. Cohen, R. F. Silverberg, E. Dwek, & M. G. Hauser.* 301, 398, 18-B12 (1986)

The Columbia CO Survey of Molecular Clouds in the First Galactic Quadrant. *R. S. Cohen, T. M. Dame, & P. Thaddeus.* 60, 695, 10-A1 (1986)

The Largest Molecular Cloud Complexes in the First Galactic Quadrant. *T. M. Dame, B. G. Elmegreen, R. S. Cohen, & P. Thaddeus.* 305, 892, 78-F1 (1986)

A Large Molecular Cloud in Lupus far from the Galactic Plane. *L.-Å. Nyman, P. Thaddeus, L. Bronfman, & R. S. Cohen.* 314, 374, 32-C4 (1987)

Molecular Clouds in the Carina Arm: Large-Scale Properties of Molecular Gas and Comparison with H I. *D. A. Grabelsky, R. S. Cohen, L. Bronfman, P. Thaddeus, & J. May.* 315, 122, 41-D2 (1987)

A Composite CO Survey of the Entire Milky Way. *T. M. Dame, H. Ungerechts, R. S. Cohen, E. J. de Geus, I. A. Grenier, J. May, D. C. Murphy, L.-Å. Nyman, & P. Thaddeus.* 322, 706, 147-D13 (1987)

A CO Survey of the Southern Milky Way: The Mean Radial Distribution of Molecular Clouds within the Solar Circle. *L. Bronfman, R. S. Cohen, H. Alvarez, J. May, & P. Thaddeus.* 324, 248, 3-G12 (1988)

Molecular Clouds in the Carina Arm: The Largest Objects, Associated Regions of Star Formation, and the Carina Arm in the Galaxy. *D. A. Grabelsky, R. S. Cohen, L. Bronfman, & P. Thaddeus.* 331, 181, 108-A10 (1988)

A Complete Survey of the Large Magellanic Cloud. *R. S. Cohen, T. M. Dame, G. Garay, J. Montani, M. Rubio, & P. Thaddeus.* 331, L95, 121-E11 (1988)

A Deep CO Survey of Molecular Clouds in the Southern Milky Way. *L. Bronfman, H. Alvarez, R. S. Cohen, & P. Thaddeus.* 71, 481, 42-A7 (1989)

COHEN, ROSS D. Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. I. The Lick Survey. *Arthur M. Wolfe, David A. Turnshek, Harding E. Smith, & Ross D. Cohen.* 61, 249, 20-C7 (1986)

The Formation of Disk Galaxies at High Redshift: Observations of Damped Lyman-Alpha Absorption in High-Redshift QSOs. *Harding E. Smith, Ross D. Cohen, & Steven E. Bradley.* 310, 583, 140-B9 (1986)

Variability of Markarian 1018: Seyfert 1.9 to Seyfert 1. *Ross D. Cohen, Richard J. Rudy, R. C. Puetter, T. B. Ake, & Craig B. Foltz.* 311, 135, 147-E2 (1986)

The Nature of the BL Lacertae Object AO 0235+164. *Ross D. Cohen, Harding E. Smith, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 318, 577, 87-C2 (1987)

The Pleiades Rapid Rotators: Evidence for an Evolutionary Sequence. *R. Paul Butler, Ross D. Cohen, Douglas K. Duncan, & Geoffrey W. Marcy.* 319, L19, 100-B9 (1987)

Emission-Line Variability and the Broad-Line Region of Quasi-stellar Objects. I. Time Scales and Photon Densities. *Wei Zheng, E. Margaret Burbidge, Harding E. Smith, Ross D. Cohen, & Steven E. Bradley.* 322, 164, 139-F5 (1987)

Ultraviolet and Optical Spectrophotometry of the Seyfert 1.8 Galaxy Markarian 609. *Richard J. Rudy, Ross D. Cohen, & T. B. Ake.* 332, 172, 125-A2 (1988)

He I λ10830 Observations of Seyfert 2 Galaxies. *Richard J. Rudy, Ross D. Cohen, George S. Rossano, R. C. Puetter, & Scott C. Chapman.* 341, 120, 85-D8 (1989)

Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. III. Intermediate-Resolution Spectroscopy. *David A. Turnshek, Arthur M. Wolfe, Kenneth M. Lanzetta, Frank H. Briggs, Ross D. Cohen, Craig B. Foltz, Harding E. Smith, & Belinda J. Wilkes.* 344, 567, 141-E7 (1989)

Lyα Emission from Disk Absorption Systems at High Redshift: Star Formation in Young Galaxy Disks. *Harding E. Smith, Ross D. Cohen, Joseph E. Burns, David J. Moore, & Barbara A. Uchida.* 347, 87, 183-B11 (1989)

Optical and Infrared Spectrophotometry of the Symbiotic System V1016 Cygni. *Richard J. Rudy, Ross D. Cohen, George S. Rossano, & R. C. Puetter.* 362, 346, 173-D7 (1990)

COHN, H. Discovery of a Possible X-Ray Triple: 4U 1915–05. *J. E. Grindlay, C. D. Bailyn, H. Cohn, P. M. Lugger, J. R. Thorstensen, & G. Wegner.* 334, L25, 161-C9 (1988)

Four X-Ray–selected Cataclysmic Variables in the Galactic Plane. *P. Hertz, C. D. Bailyn, J. E. Grindlay, M. R. Garcia, H. Cohn, & P. M. Lugger.* 364, 251, 197-B8 (1990)

COHN, HALDAN. CCD Photometry of Globular Cluster Core Structure. I. NGC 6388, NGC 6624, and M15—One Flat Core and Two Cusps. *Phyllis M. Lugger, Haldan Cohn, Jonathan E. Grindlay, Charles D. Bailyn, & Paul Hertz.* 320, 482, 114-F8 (1987)

Color Maps of X-Ray Globular Clusters. *Charles D. Bailyn, Jonathan E. Grindlay, Haldan Cohn, & Phyllis M. Lugger.* 331, 303, 109-D10 (1988)

Gravothermal Oscillations after Core Collapse in Globular Cluster Evolution. *Haldan Cohn, Piet Hut, & Michael Wise.* 342, 814, 112-E1 (1989)

COHN, HALDAN N. The Evolution of Active Galactic Nuclei. I. Models without Stellar Evolution. *Laurence P. David, Richard H. Durisen, & Haldan N. Cohn.* 313, 556, 22-G9 (1987)

The Evolution of Active Galactic Nuclei. II. Models with Stellar Evolution. *Laurence P. David, Richard H. Durisen, & Haldan N. Cohn.* 316, 505, 57-E4 (1987)

Evolution of *N*-Body Systems with Tidally Captured Binaries through the Core Collapse Phase. *Thomas S. Statler, Jeremiah P. Ostriker, & Haldan N. Cohn.* 316, 626, 58-G9 (1987)

COLAFRANCESCO, S. Space Distribution of X-Ray Clusters of Galaxies. *A. Cavaliere & S. Colafrancesco.* 331, 660, 116-B1 (1988)

COLAFRANCESCO, SERGIO. The Mass Function from Local Density Maxima: Groups and Clusters of Galaxies. *Sergio Colafrancesco, Francesco Lucchin, & Sabino Matarrese.* 345, 3, 149-A11 (1989)

COLANGELI, L. Amorphous Carbon and the Unidentified Infrared Bands. *A. Borghesi, E. Bussoletti, & L. Colangeli.* 314, 422, 32-G2 (1987)

Interstellar Amorphous Carbon. *E. Bussoletti, L. Colangeli, & V. Orofino.* 321, L87, 130-A7 (1987)

A Mixture of Hydrogenated Amorphous Carbon Grains and PAH Molecules: A Candidate for the Unidentified Infrared Bands? *A. Blanco, E. Bussoletti, & L. Colangeli.* 334, 875, 166-B1 (1988)

Hydrogenated Amorphous Carbon Grains in Comet Halley? *L. Colangeli, G. Schwehm, E. Bussoletti, S. Fonti, A. Blanco, & V. Orofino.* 348, 718, 11-D4 (1990)

COLAVITA, M. M. Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)

Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

Apparent Orbit of the Spectroscopic Binary β Arietis with the Mark III Stellar Interferometer. *X. P. Pan, M. Shao, M. M. Colavita, D. Mozurkewich, R. S. Simon, & K. J. Johnston.* 356, 641, 108-B11 (1990)

COLDWELL, R. L. Gamma-Ray Observations of SN 1987A from Antarctica. *A. C. Rester, R. L. Coldwell, F. E. Dunnam, G. Eichhorn, J. I. Trombka, R. Starr, & G. P. Lasche.* 342, L71, 117-D1 (1989)

COLEMAN, H. H. The Polarization of Thermal Radiation from Supermassive Accretion Disks. *H. H. Coleman & G. A. Shields.* 363, 415, 189-C7 (1990)

COLEMAN, PAUL H. Structure in the Universe on Scales of 10–100 Megaparsecs: Analysis of a New Deep Radio Survey and of the Abell Cluster Catalog. *Paul H. Coleman & William C. Saslaw.* 353, 354, 68-E1 (1990)

COLES, W. A. Refractive Scintillation in the Interstellar Medium. *W. A. Coles, R. G. Frehlich, B. J. Rickett, & J. L. Codona.* 315, 666, 48-A1 (1987)

Propagation Observations of the Solar Wind near the Sun. *W. A. Coles & J. K. Harmon.* 337, 1023, 31-D10 (1989)

Observations of Field-aligned Density Fluctuations in the Inner Solar Wind. *J. W. Armstrong, W. A. Coles, M. Kojima, & B. J. Rickett.* 358, 685, 132-B1 (1990)

COLEY, A. Two-Fluid Bianchi VI_0 Spacetimes. *A. Coley & K. Dunn.* 348, 26, 1-D1 (1990)

COLEY, A. A. Observations and Nonstandard FRW Models. *A. A. Coley.* 318, 487, 86-C1 (1987)

COLEY, ALAN A. Nonmetric Theories of Gravity and the Gravitational Frequency Shift. *Alan A. Coley & Antonio F. Sarmiento G.* 331, 773, 117-D1 (1988)

COLGAN, SEAN W. J. H I Emission-Absorption Studies with High-Velocity Resolution. *Sean W. J. Colgan, Edwin E. Salpeter, & Yervant Terzian.* 328, 275, 65-A7 (1988)
Theoretical Infrared Spectra of SN 1987A. *Sean W. J. Colgan & David J. Hollenbach.* 329, L25, 81-C3 (1988)
Observations of Fe II (26.0 Microns) in SN 1987A. *Edwin F. Erickson, Michael R. Haas, Sean W. J. Colgan, Steven D. Lord, Michael G. Burton, Jürgen Wolf, David J. Hollenbach, & Michael Werner.* 330, L39, 96-F7 (1988)
Arecibo Emission-Absorption Observations of Galactic OH. *Sean W. J. Colgan, Edwin E. Salpeter, & Yervant Terzian.* 336, 231, 4-A1 (1989)
H I Absorption Limits and Emission Mapping for High-Velocity Clouds. *Sean W. J. Colgan, Edwin E. Salpeter, & Yervant Terzian.* 351, 503, 46-C10 (1990)
Velocity-resolved Far-Infrared Spectra of [Fe II]: Evidence for Mixing and Clumping in SN 1987A. *Michael R. Haas, Sean W. J. Colgan, Edwin F. Erickson, Steven D. Lord, Michael G. Burton, & David J. Hollenbach.* 360, 257, 148-B12 (1990)
COLGATE, STIRLING A. Concerning the High Photospheric Velocity of the Type I Supernova 1984A near Maximum Light. *Eric C. Pearce, Stirling A. Colgate, & Albert G. Petschek.* 325, L33, 31-C9 (1988)
COLINA, L. The Behavior of the C IV Emission Line in Active Galactic Nuclei. *W. Wamsteker & L. Colina.* 311, 617, 154-E9 (1986)
CCD Photometry of the M87 Jet. *I. Pérez-Fournon, L. Colina, J. I. González-Serrano, & P. L. Biermann.* 329, L81, 89-C7 (1988)
Optical Observations of Galaxies Containing Radio Jets: A Catalog of Sources with Redshift Smaller than 0.15. *L. Colina & I. Pérez-Fournon.* 72, 41, 1-F9 (1990)
Interaction versus Radio Source Generation: The Properties of Radio Jet Parent Galaxies. *L. Colina & I. Pérez-Fournon.* 349, 45, 14-E6 (1990)
The Behavior of the C IV Emission Line in Active Galactic Nuclei: Erratum. *W. Wamsteker & L. Colina.* 351, 705, 48-G9 (1990) (Orig. paper in 311, 617, 154-E9 (1986))
The Structure and Ionization of the Extended Emission-Line Filaments Surrounding the QSO MR 2251−178. *F. Macchetto, L. Colina, D. Golombek, M. A. C. Perryman, & S. di Serego Alighieri.* 356, 389, 105-A13 (1990)
COLLINS, D. B. Accelerated Decay of $^{180}Ta^{m}$ and ^{176}Lu in Stellar Interiors through (γ,γ') Reactions. *J. J. Carroll, J. A. Anderson, J. W. Glesener, C. D. Eberhard, & D. B. Collins.* 344, 454, 138-E8 (1989)
COLLINS, G. W. Epsilon Aurigae: Polarization, Light Curves, and Geometry of the 1982–1984 Eclipse. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, T. B. Ake, T. Simon, & G. W. Collins.* 300, L11, 7-B2 (1986)
COLLINS, GEORGE W., II. A Dynamical Model for SS 433. *George W. Collins II & G. H. Newsom.* 308, 144, 109-F1 (1986)
Transient and Secular Variations of the Moving-Line Spectra from SS 433. *George W. Collins II & Gerald H. Newsom.* 331, 486, 111-F10 (1988)
COLLINS, WILLIAM. The Theory of Magnetohydrodynamic Wave Generation by Localized Sources. I. General Asymptotic Theory. *William Collins.* 337, 548, 24-C12 (1989)
The Theory of Magnetohydrodynamic Wave Generation by Localized Sources. II. Collisionless Dissipation of Wave Packets. *William Collins.* 343, 499, 124-C3 (1989)
COLLURA, A. Variability Analysis in Low Count Rate Sources. *A. Collura, A. Maggio, S. Sciortino, S. Serio, G. S. Vaiana, & R. Rosner.* 315, 340, 43-E11 (1987)
Time Variability of the X-Ray Sources in M33. *G. Peres, F. Reale, A. Collura, & G. Fabbiano.* 336, 140, 2-F11 (1989)
Variability of X-Ray Emission from OB Stars. *A. Collura, S. Sciortino, S. Serio, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 338, 296, 36-E7 (1989)
Two Variable X-Ray Sources in M31. *A. Collura, F. Reale, & G. Peres.* 356, 119, 100-E3 (1990)
Einstein Observatory Coronal Temperatures of Late-Type Stars. *J. H. M. M. Schmitt, A. Collura, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 365, 704, 217-A9 (1990)
COLOMB, F. R. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)
Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)
COLPI, M. Gamma-Ray Emission from Accretion onto a Rotating Black Hole. *M. Colpi, L. Maraschi, & A. Treves.* 311, 150, 147-F3 (1986)
COLPI, MONICA. Multiple Compton Scattering by Thermal Electrons in a Spherical Inflow: The Effects of Bulk Motion. *Monica Colpi.* 326, 223, 34-F1 (1988)
Exploding Neutron Stars near the Minimum Mass. *Monica Colpi, Stuart L. Shapiro, & Saul A. Teukolsky.* 339, 318, 54-A9 (1989)
COMBEN, E. R. The Microwave and Far-Infrared Spectra of the ^{18}OH Radical. *E. R. Comben, J. M. Brown, T. C. Steimle, K. R. Leopold, & K. M. Evenson.* 305, 513, 72-G9 (1986)
COMBES, F. The Interstellar Clouds toward 3C 154 and 3C 353. *S. R. Federman, Neal J. Evans II, R. F. Willson, E. Falgarone, F. Combes, & B. M. Scheufele.* 322, 960, 150-D4 (1987)
COMBI, M. R. Neutral Cometary Atmospheres. V. C_2 and CN in Comets. *M. R. Combi & A. H. Delsemme.* 308, 472, 113-C3 (1986)
A General Model for Io's Neutral Gas Clouds. I. Mathematical Description. *W. H. Smyth & M. R. Combi.* 66, 397, 8-G1 (1988)
A General Model for Io's Neutral Gas Clouds. II. Application to the Sodium Cloud. *W. H. Smyth & M. R. Combi.* 328, 888, 73-A1 (1988)
COMBI, MICHAEL R. Monte Carlo Particle Trajectory Models for Neutral Cometary Gases. I. Models and Equations. *Michael R. Combi & William H. Smyth.* 327, 1026, 60-B5 (1988)
Monte Carlo Particle Trajectory Models for Neutral Cometary Gases. II. The Spatial Morphology of the Lyman-Alpha Coma. *Michael R. Combi & William H. Smyth.* 327, 1044, 60-C9 (1988)
COMINS, NEIL F. Star Formation in Very Young Galactic Clusters. *Michael C. Schroeder & Neil F. Comins.* 326, 756, 41-G12 (1988)
Numerical Simulations of Galactic Structure and Helium Abundance Evolution in Disk Galaxies. *Dana S. Balser & Neil F. Comins.* 328, 499, 68-E3 (1988)
Relaxation Times in Two-dimensional Galaxy Simulations. *Michael C. Schroeder & Neil F. Comins.* 346, 108, 167-D1 (1989)
COMINSKY, L. R. Further Observations of the Eclipsing X-Ray Burst Source MXB 1659−29. *L. R. Cominsky & K. S. Wood.* 337, 485, 23-E4 (1989)
COMINSKY, LYNN R. Time-dependent Calculations of X-Ray and γ Reprocessing. *Lynn R. Cominsky, Richard A. London, & Richard I. Klein.* 315, 162, 41-F14 (1987)
COMORETTO, G. Evolution of 3C 273 at 10.7 GHz. *M. H. Cohen, J. A. Zensus, J. A. Biretta, G. Comoretto, P. Kaufmann, & Z. Abraham.* 315, L89, 49-B11 (1987)
VLBI Observations of a Complete Sample of Radio Galaxies. I. Snapshot Data. *G. Giovannini, L. Feretti, & G. Comoretto.* 358, 159, 124-A6 (1990)
COMPANY, RAFAEL. On the Apsidal Motion of DI Herculis. *Rafael Company, Miquel Portilla, & Alvaro Giménez.* 335, 962, 183-C4 (1988)
CONDON, J. J. The Relationship between Stellar Population and Radio Continuum Emission in Spiral Galaxies. *David Burstein, J. J. Condon, & Q. F. Yin.* 315, L99, 49-C8 (1987)
A Very Deep *IRAS* Survey: Constraints on the Evolution of Starburst Galaxies. *Perry Hacking, J. J. Condon, & J. R. Houck.* 316, L15, 56-B4 (1987)
Near-Infrared Observations of Submillijansky Radio Sources: Evidence for a Population of Starburst Galaxies at Intermediate Redshifts. *Trinh X. Thuan & J. J. Condon.* 322, L9, 145-A11 (1987)
A 1.49 GHz Atlas of Spiral Galaxies with $B_T \leq +12$ and $\delta \geq -45°$. *J. J. Condon.* 65, 485, 36-B1 (1987)
A 1.49 GHz Supplementary Atlas of Spiral Galaxies with *H*-Magnitudes. *J. J. Condon, Q. F. Yin, & David Burstein.* 65, 543, 36-G1 (1987)

Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)

The 1.4 GHz Luminosity Function and Its Evolution. *J. J. Condon.* 338, 13, 33-B7 (1989)

The Infrared-to-Radio Ratio within NGC 5236 (M83) and NGC 6946. *M. D. Bicay, G. Helou, & J. J. Condon.* 338, L53, 49-B10 (1989)

A Very Deep *IRAS* Survey. III. VLA Observations. *Perry Hacking, J. J. Condon, J. R. Houck, & C. A. Beichman.* 339, 12, 50-B6 (1989)

Pulsar Flux Stability and Refractive Interstellar Scintillation. *Daniel R. Stinebring & J. J. Condon.* 352, 207, 52-E4 (1990)

A New Starburst Model Applied to the Clumpy Irregular Galaxy Markarian 325. *J. J. Condon & Q. F. Yin.* 357, 97, 112-C4 (1990)

A 1.49 GHz Atlas of the *IRAS* Bright Galaxy Sample. *J. J. Condon, G. Helou, D. B. Sanders, & B. T. Soifer.* 73, 359, 23-B1 (1990)

New Observations and Gravitational Lens Models of the Cloverleaf Quasar H1413+117. *R. Kayser, J. Surdej, J. J. Condon, K. I. Kellermann, P. Magain, M. Remy, & A. Smette.* 364, 15, 194-C1 (1990)

CONNALLY, MICHAEL J. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2. John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

CONNER, J. P. Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

CONNER, S. R. 15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

CONNER, SAM. The Third MIT–Green Bank 5 GHz Survey. *Mark Griffith, Glen Langston, Mike Heflin, Sam Conner, Joseph Lehár, & Bernard Burke.* 74, 129, 31-E9 (1990)

CONNER, SAM R. The Second MIT–Green Bank 5 GHz Survey. *Glen I. Langston, Michael B. Heflin, Sam R. Conner, Joseph Lehár, Chris L. Carrilli, & Bernard F. Burke.* 72, 621, 11-A1 (1990)

CONNER, SAMUEL R. Faint Radio Sources and Gravitational Lensing. *Glen I. Langston, Samuel R. Conner, Michael B. Heflin, Joseph Lehár, & Bernard F. Burke.* 353, 34, 62-E1 (1990)

CONNORS, A. Fast Transients: A Search in X-Rays for Short Flares, Bursts, and Related Phenomena. *A. Connors, P. J. Serlemitsos, & J. H. Swank.* 303, 769, 51-A4 (1986)

CONNORS, DENNIS. The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 302, 662, 37-G8 (1986)

The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness: Erratum. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 312, 963, 13-E1 (1987) (Orig. paper in 302, 662, 37-G8 (1986))

CONROW, T. P. Galaxy Evolution and Large-Scale Structure in the Far-Infrared. II. The *IRAS* Faint Source Survey. *Carol J. Lonsdale, Perry B. Hacking, T. P. Conrow, & M. Rowan-Robinson.* 358, 60, 122-G1 (1990)

CONTENT, R. A Diffraction-limited f/2 1.5 Meter Diameter Liquid Mirror. *E. F. Borra, R. Content, M. J. Drinkwater, & S. Szapiel.* 346, L41, 173-E2 (1989)

CONTI, G. The Absolute Temperature of the Sky and the Temperature of the Cosmic Background Radiation at 600 MHz. *G. Sironi, M. Limon, G. Marcellino, G. Bonelli, M. Bersanelli, G. Conti, & K. Reif.* 357, 301, 116-C11 (1990)

CONTI, PETER S. Spectroscopic Studies of Wolf-Rayet Stars. III. The WC Subclass. *Ana V. Torres, Peter S. Conti, & Philip Massey.* 300, 379, 5-B13 (1986)

Spectroscopic Studies of Wolf-Rayet Stars. IV. Optical Spectrophotometry of the Emission Lines in Galactic and Large Magellanic Cloud Stars. *Peter S. Conti & Philip Massey.* 337, 251, 20-D12 (1989)

Spectroscopic Studies of Wolf-Rayet Stars. V. Optical Spectrophotometry of the Emission Lines in Small Magellanic Cloud Stars. *Peter S. Conti, Philip Massey, & Catharine D. Garmany.* 341, 113, 85-D1 (1989)

Spectroscopic Studies of Wolf-Rayet Stars. VI. Optical Spectrophotometry of Near-Infrared Emission Lines in Some Galactic Stars. *Peter S. Conti, Philip Massey, & Jean-Marie Vreux.* 354, 359, 78-E2 (1990)

CONTINI, M. A Guideline to the Interpretation of the Narrow Emission-Line Spectra of Active Galactic Nuclei. *S. M. Viegas-Aldrovandi & M. Contini.* 339, 689, 60-D1 (1989)

Narrow Emission-Line Profiles of Active Galactic Nuclei. *M. Contini & S. M. Viegas-Aldrovandi.* 343, 78, 119-A8 (1989)

Continuum Radiation from Active Galactic Nuclei. *M. Contini & S. M. Viegas-Aldrovandi.* 350, 125, 26-E8 (1990)

CONTINI, MARCELLA. Theoretical Correlations of Oxygen Line Widths with Ionization Potential and Critical Density in Active Galactic Nuclei. *Marcella Contini.* 333, 181, 140-A8 (1988)

Small-Scale Excesses in the Infrared Continuum Radiation of Active Galactic Nuclei. *Marcella Contini.* 358, L41, 133-B12 (1990)

CONTOPOULOS, G. Comparison of Stellar and Gasdynamics of a Barred Galaxy. *G. Contopoulos, S. T. Gottesman, J. H. Hunter, Jr., & M. N. England.* 343, 608, 126-G1 (1989)

CONVERY, M. The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

CONWAY, M. J. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

COOK, J. W. *Skylab* XUV Observations of Densities, Thermal Structure, and Mass Motions in a Compact Flare. *Kenneth G. Widing & J. W. Cook.* 320, 913, 119-F14 (1987)

Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)

Plasma Motions in an Emerging Flux Region. *G. E. Brueckner, J.-D. F. Bartoe, J. W. Cook, K. P. Dere, D. Socker, H. Kurokawa, & M. McCabe.* 335, 986, 183-E2 (1988)

Effect of Coronal Elemental Abundances on the Radiative Loss Function. *J. W. Cook, C.-C. Cheng, V. L. Jacobs, & S. K. Antiochos.* 338, 1176, 48-B9 (1989)

Solar Si III Line Ratios from the High-Resolution Telescope and Spectrograph on Board *Spacelab 2*: The Effects of Non-Maxwellian Electron Distribution Function. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 340, 1135, 82-D1 (1989)

Return of the Hard Solar Flares' 154 Day Periodicity in Solar Cycle 22 and Evidence for a Phase Relationship of This Periodicity between Cycles 21 and 22. *G. E. Brueckner & J. W. Cook.* 350, L21, 31-C6 (1990)

Relationship of Magnetic Field Strength and Brightness of Fine-Structure Elements in the Solar Temperature Minimum Region. *J. W. Cook & J. A. Ewing.* 355, 719, 97-D11 (1990)

COOK, KEM H. Discovery of Cepheids in M101. *Kem H. Cook, Marc Aaronson, & Garth Illingworth.* 301, L45, 27-B6 (1986)
Carbon and M Stars in Nearby Galaxies: A Preliminary Survey Using a Photometric Technique. *Kem H. Cook, Marc Aaronson, & John Norris.* 305, 634, 75-G1 (1986)
Southern Milky Way Carbon Stars: New Candidates, *JHK* Photometry, and Radial Velocities. *Marc Aaronson, Victor M. Blanco, Kem H. Cook, & Paul L. Schechter.* 70, 637, 27-D1 (1989)
Northern Milky Way Carbon Stars: New Candidates, *JHK* Photometry, and Radial Velocities. *Marc Aaronson, Victor M. Blanco, Kem H. Cook, Edward W. Olszewski, & Paul L. Schechter.* 73, 841, 29-F1 (1990)
COOK, TIMOTHY A. Far-Ultraviolet Spectrophotometry of Spica. *Timothy A. Cook, Webster Cash, & Theodore P. Snow.* 347, L81, 199-D8 (1989)
COOK, W. R. An Imaging Observation of SN 1987A at Gamma-Ray Energies. *W. R. Cook, D. M. Palmer, T. A. Prince, S. M. Schindler, C. H. Starr, & E. C. Stone.* 334, L87, 169-D12 (1988)
COOKSY, A. L. Accurate Determination of the Fine-Structure Intervals in the ^3P Ground States of ^{13}C and ^{12}C by Far-Infrared Laser Magnetic Resonances. *A. L. Cooksy, R. J. Saykally, J. M. Brown, & K. M. Evenson.* 309, 828, 130-D1 (1986)
COOKSY, ANDREW L. Direct Measurement of the Fine-Structure Interval and g_J Factors of Singly Ionized Atomic Carbon by Laser Magnetic Resonance. *Andrew L. Cooksy, Geoffrey A. Blake, & Richard J. Saykally.* 305, L89, 80-E11 (1986)
COOPER, DAVID L. *Ab Initio* Geometries for $C_{2n+1}H$, $C_{2n+1}H^+$, and $C_{2n+1}H_2$ Species for $n = 1, 2, 3$. *David L. Cooper & Stuart C. Murphy.* 333, 482, 143-D3 (1988)
Ab Initio Predictions for Silicon Analogs of Astrophysically Interesting Molecules: SiC_2H_2, SiH_2CN, SiH_2C_2, and CH_2CSi. *David L. Cooper.* 354, 229, 76-G1 (1990)
COOPER, J. Redistribution of Radiation in the Presence of Velocity-changing Collisions. *J. Hubeny & J. Cooper.* 305, 852, 78-C3 (1986)
Solar Neutron Emissivity during the Large Flare on 1982 June 3. *E. L. Chupp, H. Debrunner, E. Flückiger, D. J. Forrest, F. Golliez, G. Kanbach, W. T. Vestrand, J. Cooper, & G. Share.* 318, 913, 91-A1 (1987)
Transfer and Redistribution of Polarized Light in Resonance Lines. I. Quantum Formulation with Collisions. *A. Streater, J. Cooper, & D. E. Rees.* 335, 503, 176-D3 (1988)
Approximate Formulation of Redistribution in the Lyα, Lyβ, Hα System. *J. Cooper, R. J. Ballagh, & I. Hubeny.* 344, 949, 145-G7 (1989)
COOPER, R. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)
Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)
A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)
Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)
COOPERSTEIN, J. Neutrino Diffusion in Stellar Collapse. *L. J. van den Horn & J. Cooperstein.* 300, 142, 2-E10 (1986)
Neutrino Flows in Collapsing Stars: A Two-Fluid Model. *J. Cooperstein, L. J. van den Horn, & E. A. Baron.* 309, 653, 128-D5 (1986)
Neutrino Flows in Collapsing Stars: A Two-Fluid Model: Erratum. *J. Cooperstein, L. J. van den Horn, & E. A. Baron.* 315, 729, 48-E10 (1987) (Orig. paper in 309, 653, 128-D5 (1986))
Collapse of 9 $M_\odot$ Stars. *E. Baron, J. Cooperstein, & S. Kahana.* 320, 300, 111-D1 (1987)
Collapsing White Dwarfs. *E. Baron, J. Cooperstein, S. Kahana, & K. Nomoto.* 320, 304, 111-D5 (1987)
Neutrino Pair Energy Deposition in Supernovae. *J. Cooperstein, L. J. van den Horn, & E. Baron.* 321, L129, 137-C7 (1987)
Convection in Supernova Theory. *H. A. Bethe, G. E. Brown, & J. Cooperstein.* 322, 201, 140-B3 (1987)
General Relativistic Neutrino Transport in Stellar Collapse. *E. Baron, E. S. Myra, J. Cooperstein, & L. J. van den Horn.* 339, 978, 63-G1 (1989)
The Effect of Iron Core Structure on Supernovae. *E. Baron & J. Cooperstein.* 353, 597, 71-C12 (1990)
COOPERSTOCK, F. I. The New Formula for Gravitational Radiation Energy Loss: Applications to the Axisymmetric Two-Body Problem and the Binary Pulsar. *F. I. Cooperstock & P. H. Lim.* 304, 671, 63-D1 (1986)
COPETTI, MARCUS V. F. A Remarkable Feature in the Giant Extragalactic H II Region NGC 5471. *Hector O. Castañeda, J. M. Vilchez, & Marcus V. F. Copetti.* 365, 164, 208-B9 (1990)
COPPI, PAOLO S. Physical Processes in Photon-starved Nonthermal Pair Plasmas. *Andrzej A. Zdziarski, Paolo S. Coppi, & Don Q. Lamb.* 357, 149, 113-A1 (1990)
CORBALLY, CHRISTOPHER J. An Atlas of 12 Rather Subtle Composite Spectra. *Christopher J. Corbally.* 63, 365, 6-A2 (1987)
CORBATÓ, S. C. A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)
Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)
A Measurement of the Cosmic-Ray Primary Composition between 3×10^{13} and 3×10^{15} eV Using Underground Muons. *D. Cebula, S. C. Corbató, T. Daily, D. B. Kieda, K. Lande, C. K. Lee, & M. L. Cherry.* 358, 637, 131-D5 (1990)
CORBELLI, E. Galactic Fountains and Extended H I Disks. *E. Corbelli & E. E. Salpeter.* 326, 551, 39-E7 (1988)
CORBELLI, EDVIGE. Extragalactic Jets as Current Carrying Systems. II. Magnetohydrodynamic Turbulence, Relativistic Electron Distribution, and Observable Quantities. *Edvige Corbelli & Pierluigi Veltri.* 340, 679, 76-G7 (1989)
Neutral Hydrogen Absorption by Galaxies and Implications for the Soft X-Ray Background. *Edvige Corbelli & Stephen E. Schneider.* 356, 14, 99-C1 (1990)
CORBET, R. H. D. X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215−086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)
Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)
CORBET, ROBIN H. D. Hard X-Ray Emission from the Carina Nebula. *Katsuji Koyama, Ikuko Asaoka, Naoko Ushimaru, Shigeo Yamauchi, & Robin H. D. Corbet.* 362, 215, 171-G3 (1990)
CORBIN, MICHAEL R. Kinematics and Ionization of Extended Gas in Active Galaxies. IV. The Seyfert 2 Galaxy NGC 4388. *Michael R. Corbin, J. A. Baldwin, & A. S. Wilson.* 334, 584, 162-G1 (1988)
New Results on Quasar Emission-Line Redshift Differences. *Michael R. Corbin.* 357, 346, 116-G11 (1990)
CORCORAN, MICHAEL F. *IUE* Observations of V Sagittae. *Robert H. Koch, Michael F. Corcoran, Bruce D. Holenstein, & George E. McCluskey, Jr.* 306, 618, 91-C10 (1986)
CORDES, J. M. Null Transition Times, Quantized Drift Modes, and No Memory across Nulls for PSR 1944+17. *W. T. S. Deich, J. M. Cordes, T. H. Hankins, & J. M. Rankin.* 300, 540, 9-A10 (1986)

Rotation Measures of Extragalactic Radio Sources Viewed through the Molecular Clouds Cepheus A and L1551. *J. H. Simonetti & J. M. Cordes.* 303, 659, 49-F8 (1986)
Multiple Imaging of Pulsars by Refraction in the Interstellar Medium. *J. M. Cordes & A. Wolszczan.* 307, L27, 100-B13 (1986)
Small-Scale Variations in the Galactic Magnetic Field: Rotation Measure Variations across Extragalactic Radio Sources. *J. H. Simonetti & J. M. Cordes.* 310, 160, 133-F12 (1986)
Refractive and Diffractive Scattering in the Interstellar Medium. *J. M. Cordes, A. Pidwerbetsky, & R. V. E. Lovelace.* 310, 737, 142-A9 (1986)
Space Velocities of Radio Pulsars from Interstellar Scintillations. *J. M. Cordes.* 311, 183, 148-A9 (1986)
Interstellar Interferometry of the Pulsar PSR 1237+25. *A. Wolszczan & J. M. Cordes.* 320, L35, 114-C11 (1987)
Monte Carlo Simulations of Radio Pulsars and Their Progenitors. *R. J. Dewey & J. M. Cordes.* 321, 780, 133-B1 (1987)
JPL Pulsar Timing Observations. V. Macro- and Microjumps in the Vela Pulsar 0833–45. *J. M. Cordes, G. S. Downs, & J. Krause-Polstorff.* 330, 847, 101-G6 (1988)
VLBI Observations of a Pulsar's Scattering Disk. *C. R. Gwinn, J. M. Cordes, N. Bartel, A. Wolszczan, & R. L. Mutel.* 334, L13, 161-B10 (1988)
Flicker of Extragalactic Radio Sources at Two Epochs. *J. H. Simonetti & J. M. Cordes.* 349, 97, 15-B9 (1990)
Timing and Scintillations of the Millisecond Pulsar 1937+214. *J. M. Cordes, A. Wolszczan, R. J. Dewey, M. Blaskiewicz, & D. R. Stinebring.* 349, 245, 17-A1 (1990)
Polarization of the Binary Radio Pulsar 1913+16: Constraints on Geodetic Precession. *J. M. Cordes, I. Wasserman, & M. Blaskiewicz.* 349, 546, 22-B1 (1990)
Interstellar Propagation Effects and the Precision of Pulsar Timing. *R. S. Foster & J. M. Cordes.* 364, 123, 195-E4 (1990)
CORDES, JAMES M. Interstellar Scattering of Compact Radio Sources near Supernova Remnants. *Steven R. Spangler, Robert L. Mutel, John M. Benson, & James M. Cordes.* 301, 312, 17-C8 (1986)
VLA and Low-Frequency VLBI Observations of the Radio Source 0503+467: Austere Constraints on Interstellar Scattering in Two Media. *Steven R. Spangler, Alan L. Fey, & James M. Cordes.* 322, 909, 149-G3 (1987)
Interstellar Scattering of the Radio Source 2013+370. *Steven R. Spangler & James M. Cordes.* 332, 346, 127-A1 (1988)
Physical Implications of the Eclipsing Binary Pulsar. *Ira Wasserman & James M. Cordes.* 333, L91, 152-F8 (1988)
A Chaotic Attractor in Timing Noise from the Vela Pulsar? *Alice K. Harding, Troy Shinbrot, & James M. Cordes.* 353, 588, 71-C1 (1990)
Faraday Rotation Measure Variations in the Cygnus Region and the Spectrum of Interstellar Plasma Turbulence. *T. Joseph Lazio, Steven R. Spangler, & James M. Cordes.* 363, 515, 190-E7 (1990)
CÓRDOVA, F. A. Simultaneous X-Ray and Infrared Observations of Cygnus X-3. *K. O. Mason, F. A. Córdova, & N. E. White.* 309, 700, 129-A1 (1986)
Transient Radio Emission from the X-Ray Nova ASM 2000+25. *R. M. Hjellming, T. A. Calovini, Xiao Hong Han, & F. A. Córdova.* 335, L75, 185-D10 (1988)
Soft X-Ray Emission from the Radio Pulsar PSR 0656+14. *F. A. Córdova, R. M. Hjellming, K. O. Mason, & J. Middleditch.* 345, 451, 154-F8 (1989)
CÓRDOVA, FRANCE A. Interstellar Absorption Lines in High-Resolution *IUE* Spectra of Cataclysmic Variables. *Christopher W. Mauche, John C. Raymond, & France A. Córdova.* 335, 829, 181-F14 (1988)
CORNELL, M. E. A Distance Scale from the Infrared Magnitude/H I Velocity-Width Relation. V. Distance Moduii to 10 Galaxy Clusters, and Positive Detection of Bulk Supercluster Motion toward the Microwave Anisotropy. *M. Aaronson, G. Bothun, J. Mould, J. Huchra, R. A. Schommer, & M. E. Cornell.* 302, 536, 36-D4 (1986)
Isophotal Diameters of Cluster Spirals. *M. E. Cornell, M. Aaronson, G. Bothun, & J. Mould.* 64, 507, 24-A5 (1987)
Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)
CORNETT, ROBERT H. Images in the Rocket Ultraviolet: UV Fluxes of M31 Globular Clusters. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, & Theodore P. Stecher.* 334, 657, 163-E8 (1988)
Images in the Rocket Ultraviolet: Star Formation and Extinction in the M51 System. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert W. O'Connell, & Theodore P. Stecher.* 352, 55, 50-F13 (1990)
Vacuum Ultraviolet Images of the Large Magellanic Cloud: Erratum. *Andrew M. Smith, Robert H. Cornett, & Robert S. Hill.* 355, 746, 97-G6 (1990) (Orig. paper in 320, 609, 116-C9 (1987))
Images in the Rocket Ultraviolet: Young Clusters in H II Regions of M83. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, & Theodore P. Stecher.* 363, 154, 184-A9 (1990)
CORNETT, ROBERT M. Vacuum Ultraviolet Images of the Large Magellanic Cloud. *Andrew M. Smith, Robert M. Cornett, & Robert S. Hill.* 320, 609, 116-C9 (1987)
CORNWELL, T. J. High-Resolution Images of the Orion Molecular Ridge in the CS $J = 2$–1 Transition. *Lee G. Mundy, T. J. Cornwell, Colin R. Masson, Nicholas Z. Scoville, Lars B. Bååth, & Lars E. B. Johansson.* 325, 382, 23-D3 (1988)
RX Puppis: Detection of Asymmetrical Radio Structure. *J. M. Hollis, F. Yusef-Zadeh, T. J. Cornwell, R. J. Oliversen, A. G. Michalitsianos, & M. Kafatos.* 337, 514, 23-G9 (1989)
High-Resolution, High Dynamic Range VLA Images of the M87 Jet at 2 Centimeters. *Frazer N. Owen, Philip E. Hardee, & T. J. Cornwell.* 340, 698, 77-B1 (1989)
A Search for Motion and Flux Variations in the M87 Jet. *J. A. Biretta, F. N. Owen, & T. J. Cornwell.* 342, 128, 102-E3 (1989)
Detection of Synchrotron Emission from a Unique HH–like Object in Orion. *F. Yusef-Zadeh, T. J. Cornwell, Bo Reipurth, & M. Roth.* 348, L61, 13-C1 (1990)
CORONITI, F. V. Radiation-Hydrodynamic Calculation of Sub-Eddington Accretion Disks. *G. E. Eggum, F. V. Coroniti, & J. I. Katz.* 323, 634, 161-F1 (1987)
Radiation Hydrodynamic Calculation of Super-Eddington Accretion Disks. *G. E. Eggum, F. V. Coroniti, & J. I. Katz.* 330, 142, 91-E9 (1988)
Magnetically Striped Relativistic Magnetohydrodynamic Winds: The Crab Nebula Revisited. *F. V. Coroniti.* 349, 538, 22-A4 (1990)
Ergosphere-driven Winds. *B. Punsly & F. V. Coroniti.* 354, 583, 83-E5 (1990)
CORONITI, FERDINAND V. Buoyancy-limited Magnetic Viscosity in Quasi-stellar Object Accretion Disk Models. *Philip J. Sakimoto & Ferdinand V. Coroniti.* 342, 49, 101-E14 (1989)
Relativistic Winds from Pulsar and Black Hole Magnetospheres. *Brian Punsly & Ferdinand V. Coroniti.* 350, 518, 32-F6 (1990)
CORREIA, E. Rise Times in Solar Radio Bursts. *J. E. R. Costa & E. Correia.* 73, 185, 20-C1 (1990)
On Removal of the Gradual Component in Analyses of Solar Impulsive Bursts. *J. E. R. Costa, J. C. Brown, E. Correia, & P. Kaufmann.* 73, 191, 20-C11 (1990)
CORTÉS, T. ROCA. The 160 Minute Solar Oscillation: An Artifact? *Y. P. Elsworth, S. M. Jefferies, C. P. McLeod, R. New, P. L. Pallé, H. B. van der Raay, C. Régulo, & T. Roca Cortés.* 338, 557, 39-F7 (1989)
CORTÉS, TEODORO ROCA. Global Acoustic Oscillations on α Bootis. *Juan A. Belmonte, Andrew R. Jones, Pere L. Pallé, & Teodoro Roca Cortés.* 358, 595, 131-A1 (1990)
CORTEZ, B. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)
CORTIGLIONI, S. Measurements of the Cosmic Background Radiation Temperature at 6.3 Centimeters. *N. Mandolesi, P. Calzolari, S. Cortiglioni, G. Morigi, L. Danese, & G. De Zotti.* 310, 561, 140-A1 (1986)

CORWIN, H. G., JR. S Andromedae 1885: A Centennial Review: Erratum. *G. de Vaucouleurs & H. G. Corwin, Jr.* 302, 517, 33-G14 (1986) (Orig. paper in 295, 287, 83-C1 (1985))

The Hubble Ratio from Sosies of M31 in the Virgo S Cloud and in the Hercules Supercluster. *G. de Vaucouleurs & H. G. Corwin, Jr.* 308, 487, 114-C1 (1986)

CORWIN, HAROLD G., JR. The Distance to the Hercules Supercluster. I. Basic Data for 220 Galaxies in CGCG Field 108. *Ronald J. Buta & Harold G. Corwin, Jr.* 62, 255, 35-A5 (1986)

The Distance to the Hercules Supercluster. II. Application of Tertiary Indicators and an Estimate of the Hubble Constant. *Ronald J. Buta & Harold G. Corwin, Jr.* 62, 283, 35-D1 (1986)

A Catalog of Rich Clusters of Galaxies. *George O. Abell, Harold G. Corwin, Jr., & Ronald P. Olowin.* 70, 1, 16-B1 (1989)

The CfA Redshift Survey: Data for the NGP +30 Zone. *John P. Huchra, Margaret J. Geller, Valérie de Lapparent, & Harold G. Corwin, Jr.* 72, 433, 8-B1 (1990)

COSTA, A. Oscillations in Stellar Atmospheres. *A. Costa, J. M. Fontenla, & A. E. Ringuelet.* 339, 314, 54-A5 (1989)

COSTA, E. Time Variability of Gamma Cassiopeiae in X-Rays. *F. Frontera, D. Dal Fiume, N. R. Robba, G. Manzo, S. Re, & E. Costa.* 320, L127, 121-D13 (1987)

Observation of the Vela Pulsar, PSR 0833–45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

Observations of Galactic and Extragalactic High-Energy X-Ray Sources. *G. Matt, E. Costa, D. Dal Fiume, W. Dusi, F. Frontera, & E. Morelli.* 355, 468, 94-C1 (1990)

Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)

COSTA, J. E. R. Rise Times in Solar Radio Bursts. *J. E. R. Costa & E. Correia.* 73, 185, 20-C1 (1990)

On Removal of the Gradual Component in Analyses of Solar Impulsive Bursts. *J. E. R. Costa, J. C. Brown, E. Correia, & P. Kaufmann.* 73, 191, 20-C11 (1990)

COSTA, J. M. First Orbits for the Visual Double Stars ADS 328, ADS 9043, and ADS 13048. *J. A. Docobo & J. M. Costa.* 60, 945, 14-G12 (1986)

COSTAIN, C. H. An X-Ray and Radio Study of Steep-Spectrum Radio Sources. I. Four Fields from the Clark Lake Observatory 26 MHz Survey. *D. E. Harris, P. E. Dewdney, C. H. Costain, I. McHardy, & A. G. Willis.* 325, 610, 27-C2 (1988)

COTA, S. A. Hydrogen Emissivity in Realistic Nebulae: The Effects of Velocity Fields and Internal Dust. *S. A. Cota & G. J. Ferland.* 326, 889, 43-C7 (1988)

COTA, STEPHEN A. The Double Broad-Line Emitting Regions in NGC 5548 as Possible Evidence for a Supermassive Binary. *Bradley M. Peterson, Kirk T. Korista, & Stephen A. Cota.* 312, L1, 7-A4 (1987)

The Size of the Broad-Line Region in the Seyfert Galaxy NGC 4151. *Bradley M. Peterson & Stephen A. Cota.* 330, 111, 91-C1 (1988)

COTÉ, J. Relations between the Photospheric Magnetic Field and the Emission from the Outer Atmospheres of Cool Stars. I. The Solar Ca II K Line Core Emission. *C. J. Schrijver, J. Coté, C. Zwaan, & S. H. Saar.* 337, 964, 30-F12 (1989)

COTTON, W. D. Radio and Optical Observations of Optically Weak, Steep-Spectrum, Compact Radio Sources. *W. D. Cotton, F. N. Owen, & M. J. Mahoney.* 338, 37, 33-D8 (1989)

COUCHMAN, H. M. P. Mergers and Bias in a Cold Dark Matter Cosmology. *R. G. Carlberg & H. M. P. Couchman.* 340, 47, 67-E7 (1989)

Cosmological Velocity Bias. *R. G. Carlberg, H. M. P. Couchman, & P. A. Thomas.* 352, L29, 61-B1 (1990)

Detecting Clusters in Galaxy Catalogs. *Colin McGill & H. M. P. Couchman.* 364, 426, 201-C7 (1990)

COULSON, I. A. The Southern Sky Redshift Survey. *L. Nicolaci da Costa, P. S. Pellegrini, W. L. W. Sargent, J. Tonry, M. Davis, A. Meiksin, David W. Latham, J. W. Menzies, & I. A. Coulson.* 327, 544, 54-F1 (1988)

COULSON, IAIN M. A Photometric and Radial Velocity Study of Six Southern Cepheids. II. Binarity, Radii, Luminosities, and Masses. *Iain M. Coulson, John A. R. Caldwell, & Wolfgang P. Gieren.* 303, 273, 44-B1 (1986)

COURT, A. J. Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)

Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)

COURTNEY, M. W. Thermal Cyclotron Absorption Coefficients. *G. Chanmugam, P. E. Barrett, Kinwah Wu, & M. W. Courtney.* 71, 323, 39-C9 (1989)

COURVOISIER, T. J.-L. The Discovery of 3.9 Hour Periodic Dips in the X-Ray Intensity of XB 1254–690. *T. J.-L. Courvoisier, A. N. Parmar, A. Peacock, & M. Pakull.* 309, 265, 122-G4 (1986)

COURVOISIER, THIERRY J.-L. The Optical Light Curve of the Low-Mass X-Ray Binary XB 1254–690. *Christian Motch, Holger Pedersen, Klaus Beuermann, Manfred W. Pakull, & Thierry J.-L. Courvoisier.* 313, 792, 25-D8 (1987)

COUTURE, JEAN. Detection and Measurement of the Wing-Ford Band in the Near-Infrared Spectra of Elliptical Galaxies. *Eduardo Hardy & Jean Couture.* 325, L29, 31-C6 (1988)

BVI Photometry of Globular Clusters in M87. *Jean Couture, William E. Harris, & J. W. B. Allwright.* 73, 671, 27-D9 (1990)

COVINO, E. The Rotation Period and Inclination Angle of T Tauri. *W. Herbst, J. F. Booth, P. F. Chugainov, G. V. Zajtseva, W. Barksdale, E. Covino, L. Terranegra, A. Vittone, & F. Vrba.* 310, L71, 145-A13 (1986)

COWAN, JOHN J. Nuclear Chronometers from the *r*-Process and the Age of the Galaxy. *John J. Cowan, F.-K. Thielemann, & J. W. Truran.* 323, 543, 160-F1 (1987)

Abundances of Neutron Capture Elements in Population II Stars. *Kalpana Krishnaswamy Gilroy, Christopher Sneden, Catherine A. Pilachowski, & John J. Cowan.* 327, 298, 50-C6 (1988)

Radio and Optical Studies of Supernova 1961V in NGC 1058. *John J. Cowan, Richard B. C. Henry, & David Branch.* 329, 116, 76-C1 (1988)

COWIE, L. L. Gas in and toward the Magellanic Clouds. *A. Songaila, J. C. Blades, E. M. Hu, & L. L. Cowie.* 303, 198, 43-C6 (1986)

Are the Virial Masses of Clusters Smaller than We Think? *L. L. Cowie, M. Henriksen, & R. Mushotzky.* 317, 593, 72-E11 (1987)

A Cosmologically Significant Population of Galaxies Dominated by Very Young Star Formation. *L. L. Cowie, S. J. Lilly, J. Gardner, & I. S. McLean.* 332, L29, 129-D7 (1988)

The Infrared Protogalaxy Candidate in SA 57: A Low-Redshift Elliptical Galaxy. *S. J. Lilly, J. P. Gardner, L. L. Cowie, & I. S. McLean.* 332, L59, 137-C1 (1988)

Limits on the Galactic and Cosmic Ionizing Fluxes from Measurements of Hα Emission from the High-Velocity Neutral Hydrogen Clouds. *A. Songaila, W. Bryant, & L. L. Cowie.* 345, L71, 165-A10 (1989)

Galaxy Formation and the Origin of the Ionizing Flux at Large Redshift. *A. Songaila, L. L. Cowie, & S. J. Lilly.* 348, 371, 7-C1 (1990)

A *K* Band Deep Galaxy Survey. *L. L. Cowie, J. P. Gardner, S. J. Lilly, & I. McLean.* 360, L1, 149-B2 (1990)

High-Resolution Imaging and the H-R Diagram of Galactic Bulge Planetary Nebulae. *M. A. Dopita, J. P. Henry, I. R. Tuohy, B. L. Webster, E. H. Roberts, Y.-I. Byun, L. L. Cowie, & A. Songaila.* 365, 640, 216-B10 (1990)

COWIE, LENNOX L. Kinematic Evidence of Satellite Galaxy Populations in the Potential Wells of First-ranked Cluster Galaxies. *Lennox L. Cowie & Esther M. Hu.* 305, L39, 80-B7 (1986)
Star-Gas Density Waves in Spiral Galaxies. *Stephen H. Lubow, Steven A. Balbus, & Lennox L. Cowie.* 309, 496, 126-F2 (1986)
The Distribution of Gas and Galaxies around the Distant Quasar PKS 1614+051. *Esther M. Hu & Lennox L. Cowie.* 317, L7, 71-A9 (1987)
The Formation of Families of Twin Galaxies by String Loops. *Lennox L. Cowie & Esther M. Hu.* 318, L33, 92-A9 (1987)
The Distance to the High-Velocity Clouds: Mass Infall and Galactic Disk Formation. *Antoinette Songaila, Lennox L. Cowie, & Harold Weaver.* 329, 580, 83-A10 (1988)
Energy and Mass Balance in the Three-Phase Interstellar Medium. *Zhong Wang & Lennox L. Cowie.* 335, 168, 172-C5 (1988)
A Field Galaxy at a Probable Redshift of 3.38. *Lennox L. Cowie & Simon J. Lilly.* 336, L41, 16-D10 (1989)
COWLEY, A. P. The Orbit of GK Persei. *David Crampton, A. P. Cowley, & W. A. Fisher.* 300, 788, 11-G4 (1986)
Optical Observations of the X-Ray Nova EXO 0748−676 near Maximum Light. *D. Crampton, A. P. Cowley, J. Stauffer, P. Ianna, & J. B. Hutchings.* 306, 599, 91-B5 (1986)
The Space Distribution of Faint Quasars from the CFHT Survey. *David Crampton, A. P. Cowley, & F. D. A. Hartwick.* 314, 129, 29-D4 (1987)
Kinematics and Age of the Low-Mass X-Ray Binaries. *A. P. Cowley, J. B. Hutchings, David Crampton, & F. D. A. Hartwick.* 320, 296, 111-C11 (1987)
CAL 83: A Puzzling X-Ray Source in the Large Magellanic Cloud. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, I. B. Thompson, & James Liebert.* 321, 745, 132-F3 (1987)
The M31 Globular Cluster System: Erratum. *D. Crampton, A. P. Cowley, D. Schade, & P. Chayer.* 322, 1074, 151-F12 (1987) (Orig. paper in 288, 494, 8-B2 (1985))
1343.4+2640: A Close Quasar Pair. *David Crampton, A. P. Cowley, P. Hickson, E. Kindl, R. Mark Wagner, J. Anthony Tyson, & Craig Gullixson.* 330, 184, 92-A9 (1988)
Spectroscopy and Kinematics of the Low-Mass X-Ray Binaries. *A. P. Cowley, J. B. Hutchings, & D. Crampton.* 333, 906, 150-C1 (1988)
The Kinematics of an Old Stellar Population in the Large Magellanic Cloud: The CH Stars. *F. D. A. Hartwick & A. P. Cowley.* 334, 135, 155-F8 (1988)
Redshifts of Quasars in the CFGT/MMT Survey: Further Evidence for Isolated Groups. *David Crampton, A. P. Cowley, & F. D. A. Hartwick.* 345, 59, 149-F7 (1989)
CAL 87: An Eclipsing Black Hole Binary? *A. P. Cowley, P. C. Schmidtke, D. Crampton, & J. B. Hutchings.* 350, 288, 28-E4 (1990)
The Low-Mass X-Ray Binary LMC X-2. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, & I. B. Thompson.* 355, 496, 94-F1 (1990)
COWLEY, CHARLES R. Lanthanide Abundances in Three Cool CP Stars. *Antonio Magazzù & Charles R. Cowley.* 308, 254, 110-G5 (1986)
Identification of Lines in the Satellite Ultraviolet: The Spectrum of Tau Scorpii. *Charles R. Cowley & Donald R. Merritt.* 321, 553, 128-B10 (1987)
Hyperfine Structure in the Barium Resonance Line: Curves of Growth for Solar and *r*-Process Isotopic Mixtures. *Charles R. Cowley & Madai Frey.* 346, 1030, 179-G7 (1989)
Second Viscosity of the Gas in the Outer Solar Envelope. *Charles R. Cowley.* 348, 328, 5-B1 (1990)
COWLEY, S. C. An Analytic Treatment for a Model of Superclustering in the Universe. *R. M. Kulsrud & S. C. Cowley.* 346, 546, 174-C8 (1989)
COWSIK, R. Dark Matter in the Universe: Massive Neutrinos Revisited. *R. Cowsik & P. Ghosh.* 317, 26, 64-C4 (1987)
Thermodynamics and Orientational Order in Systems of Extended Gravitating Objects: A Mean-Field Theory Approach. I. Basic Formalism. *P. Bhattacharjee, P. Ghosh, & R. Cowsik.* 339, 638, 59-G1 (1989)
Wide-Field High-Resolution 327 MHz Radio Observations of X-Ray Globular Cluster Fields. *S. Sukumar & R. Cowsik.* 343, 718, 128-B10 (1989)
Thermodynamics and Orientational Order in Systems of Extended Gravitating Objects. II. Tidal Distortions and the Interaction Pseudopotential. *P. Ghosh, P. Bhattacharjee, & R. Cowsik.* 345, 647, 158-G1 (1989)
On the Origin of the Diffuse X-Ray Background. *R. Subrahmanyan & R. Cowsik.* 347, 1, 182-B1 (1989)
COX, ARTHUR N. A Linear Survey of the Mira Variable Star Instability Region of the Hertzsprung-Russell Diagram. *Dale A. Ostlie & Arthur N. Cox.* 311, 864, 157-C3 (1986)
Pulsations of White Dwarf Stars with Thick Hydrogen or Helium Surface Layers. *Arthur N. Cox, Sumner G. Starrfield, Russell B. Kidman, & W. Dean Pesnell.* 317, 303, 67-B14 (1987)
Theoretical Interpretations of Anomalous Cepheid Pulsations. *Arthur N. Cox & Charles R. Proffitt.* 324, 1042, 15-A5 (1988)
The Pulsational Stability of Wolf-Rayet Stars. *Arthur N. Cox & Julius H. Cahn.* 326, 804, 42-D4 (1988)
Oscillations of Solar Models with Internal Element Diffusion. *Arthur N. Cox, Joyce A. Guzik, & Russell B. Kidman.* 342, 1187, 116-F4 (1989)
Oscillations of Condensed-out Iron and Cosmion Solar Models. *Arthur N. Cox, Joyce A. Guzik, & Stuart Raby.* 353, 698, 72-E1 (1990)
COX, D. Spatial and Spectral Interpretation of a Bright Filament in the Cygnus Loop. *J. C. Raymond, J. J. Hester, D. Cox, W. P. Blair, R. A. Fesen, & T. R. Gull.* 324, 869, 13-A1 (1988)
COX, D. A. Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. II. RT Andromedae. *M. Zeilik, D. A. Cox, C. De Blasi, M. Rhodes, & E. Budding.* 345, 991, 162-G5 (1989)
Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. IV. WY Cancri. *M. Zeilik, D. A. Cox, M. J. Ledlow, M. Rhodes, P. A. Heckert, & E. Budding.* 363, 647, 192-B11 (1990)
COX, D. P. A Model for the Distribution of Material Generating the Soft X-Ray Background. *S. L. Snowden, D. P. Cox, D. McCammon, & W. T. Sanders.* 354, 211, 76-E7 (1990)
COX, DONALD P. The Cygnus Loop: A Detailed Comparison of X-Ray and Optical Emission. *J. Jeff Hester & Donald P. Cox.* 300, 675, 10-E4 (1986)
Limits on Supernova Rates and Interstellar Densities from X-Ray Observations of M101. *Donald P. Cox & Dan McCammon.* 304, 657, 63-C1 (1986)
The Terrain of Evolution of Isotropic Adiabatic Supernova Remnants. *Donald P. Cox.* 304, 771, 64-E9 (1986)
Application of Cosmic-Ray Shock Theories to the Cygnus Loop: An Alternative Model. *A. Boulares & Donald P. Cox.* 333, 198, 140-C1 (1988)
Galactic Hydrostatic Equilibrium with Magnetic Tension and Cosmic-Ray Diffusion. *Ahmed Boulares & Donald P. Cox.* 365, 544, 215-A8 (1990)
COZIOL, ROGER. Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)
CRABTREE, D. Detection of the Lensing Galaxy in PG 1115+080. *C. A. Christian, D. Crabtree, & P. Waddell.* 312, 45, 1-D10 (1987)
CRABTREE, DENNIS. The Late-Type Stellar Content of NGC 55. *Christopher J. Pritchet, Harvey B. Richer, David Schade, Dennis Crabtree, & H. K. C. Yee.* 323, 79, 154-A3 (1987)
CRABTREE, DENNIS R. Late-Type Stars in an Inner and Far Disk Field of M31. *Harvey B. Richer, Dennis R. Crabtree, & Christopher J. Pritchet.* 355, 448, 94-A5 (1990)
CRAGG, D. M. A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)
CRAIG, DAVID A. The Area of Isodensity Contours in Cosmological Models and Galaxy Surveys. *Barbara S. Ryden, Adrian L. Melott, David A. Craig, J. Richard Gott III, David H. Weinberg, Robert J. Scherrer, Suketu P. Bhavsar, & John M. Miller.* 340, 647, 76-E1 (1989)
CRAIG, I. J. D. Quasi-steady Mass Flows in Coronal Loops. *I. J. D. Craig & A. N. McClymont.* 307, 367, 99-B6 (1986)

A Dynamic Relaxation Technique for Determining the Structure and Stability of Coronal Magnetic Fields. *I. J. D. Craig & A. D. Sneyd.* 311, 451, 151-A4 (1986)
Fast Downflows in the Solar Transition Region Explained. *A. N. McClymont & I. J. D. Craig.* 312, 402, 5-C2 (1987)
Why Coronal Loops Cannot Exist without Solar Gravity. *I. J. D. Craig & A. N. McClymont.* 318, 421, 83-E5 (1987)
General Methods for Determining the Linear Stability of Coronal Magnetic Fields. *I. J. D. Craig, A. N. McClymont, & A. D. Sneyd.* 335, 441, 175-E7 (1988)
The Linear Stability of Line-tied Coronal Magnetic Fields. *B. J. Foote & I. J. D. Craig.* 350, 437, 30-D1 (1990)
Nonlinear Development of the Kink Instability in Coronal Flux Tubes. *I. J. D. Craig & A. D. Sneyd.* 357, 653, 120-F5 (1990)
Sheared Coronal Arcades: An Evaluation of Recent Studies. *I. J. D. Craig, G. J. Rickard, & A. D. Sneyd.* 365, L35, 212-D6 (1990)

CRAM, L. E. Interpretation of Hα Contrast Profiles of Active Region Loops. *L. E. Cram.* 300, 830, 12-C5 (1986)
Formation of Chromospheric Lines in Cool Dwarf Stars. *L. E. Cram & M. S. Giampapa.* 323, 316, 156-D13 (1987)

CRAM, LAWRENCE E. The Ca II Resonance Lines in M Dwarf Stars without Hα Emission. *Mark S. Giampapa, Lawrence E. Cram, & Walter J. Wild.* 345, 536, 155-F9 (1989)
Chromospheric Hα and Ca II Lines in Late-Type Stars. *Richard D. Robinson, Lawrence E. Cram, & Mark S. Giampapa.* 74, 891, 43-G7 (1990)

CRAMPTON, D. Optical Observations of the X-Ray Nova EXO 0748−676 near Maximum Light. *D. Crampton, A. P. Cowley, J. Stauffer, P. Ianna, & J. B. Hutchings.* 306, 599, 91-B5 (1986)
The M31 Globular Cluster System: Erratum. *D. Crampton, A. P. Cowley, D. Schade, & P. Chayer.* 322, 1074, 151-F12 (1987) (Orig. paper in 288, 494, 8-B2 (1985))
Spectroscopy and Kinematics of the Low-Mass X-Ray Binaries. *A. P. Cowley, J. B. Hutchings, & D. Crampton.* 333, 906, 150-C1 (1988)
CAL 87: An Eclipsing Black Hole Binary? *A. P. Cowley, P. C. Schmidtke, D. Crampton, & J. B. Hutchings.* 350, 288, 28-E4 (1990)

CRAMPTON, DAVID. The Orbit of GK Persei. *David Crampton, A. P. Cowley, & W. A. Fisher.* 300, 788, 11-G4 (1986)
The Space Distribution of Faint Quasars from the CFHT Survey. *David Crampton, A. P. Cowley, & F. D. A. Hartwick.* 314, 129, 29-D4 (1987)
Kinematics and Age of the Low-Mass X-Ray Binaries. *A. P. Cowley, J. B. Hutchings, David Crampton, & F. D. A. Hartwick.* 320, 296, 111-C11 (1987)
CAL 83: A Puzzling X-Ray Source in the Large Magellanic Cloud. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, I. B. Thompson, & James Liebert.* 321, 745, 132-F3 (1987)
1343.4+2640: A Close Quasar Pair. *David Crampton, A. P. Cowley, P. Hickson, E. Kindl, R. Mark Wagner, J. Anthony Tyson, & Craig Gullixson.* 330, 184, 92-A9 (1988)
Redshifts of Quasars in the CFGT/MMT Survey: Further Evidence for Isolated Groups. *David Crampton, A. P. Cowley, & F. D. A. Hartwick.* 345, 59, 149-F7 (1989)
V795 Herculis (PG 1711+336): A New Intermediate Polar in the Period Gap. *Allen W. Shafter, Edward L. Robinson, David Crampton, Brian Warner, & Richard M. Prestage.* 354, 708, 85-B1 (1990)
The Low-Mass X-Ray Binary LMC X-2. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, & I. B. Thompson.* 355, 496, 94-F1 (1990)

CRANE, P. Optical Spectroscopy of the High-Latitude Cloud Lynds 1569. *B. E. Penprase, J. C. Blades, A. C. Danks, & P. Crane.* 365, 241, 209-B7 (1990)

CRANE, P. C. Spiral Structure of M51: Thermal and Nonthermal Emission. *R. P. J. Tilanus, R. J. Allen, J. M. van der Hulst, P. C. Crane, & R. C. Kennicutt.* 330, 667, 99-G1 (1988)

CRANE, PATRICK C. The Origin of Cosmic Rays. I. Observations of the Spiral Galaxy NGC 3310. *Nebojsa Duric, E. R. Seaquist, Patrick C. Crane, & L. E. Davis.* 304, 82, 54-G3 (1986)
Bubbles and Braided Jets in Galaxies with Compact Radio Nuclei. *Holland C. Ford, Oved Dahari, George H. Jacoby, Patrick C. Crane, & Robin Ciardullo.* 311, L7, 152-A11 (1986)

CRANE, PHILIPPE. How Relaxed Is the Distribution of Galaxies? *Philippe Crane & William C. Saslaw.* 301, 1, 14-A8 (1986)
Cosmic Background Radiation Temperature from CN Absorption. *Philippe Crane, Dennis J. Hegyi, Nazzareno Mandolesi, & Anthony C. Danks.* 309, 822, 130-C8 (1986)
Detection of Interstellar ^{13}CN toward ζ Ophiuchi. *Philippe Crane & Dennis J. Hegyi.* 326, L35, 38-D1 (1988)
Interstellar CH toward ζ Ophiuchi. *Eliana Palazzi, Nazzareno Mandolesi, & Philippe Crane.* 326, 905, 43-D9 (1988)
Cosmic Background Radiation Temperature at 2.64 Millimeters. *Philippe Crane, Dennis J. Hegyi, Marc L. Kutner, & Nazzareno Mandolesi.* 346, 136, 167-F11 (1989)
A Precise Measurement of the Cosmic Background Radiation at 1.32 Millimeters. *E. Palazzi, N. Mandolesi, Philippe Crane, Marc L. Kutner, J. C. Blades, & Dennis J. Hegyi.* 357, 14, 111-C3 (1990)
CN, CH, and CH$^+$ toward ζ Ophiuchi. *David L. Lambert, Yaron Sheffer, & Philippe Crane.* 359, L19, 138-B11 (1990)
The Interstellar ^{12}C/^{13}C Ratio toward μ Normae. *Philippe Crane, David L. Lambert, & Eliana Palazzi.* 363, 192, 184-E1 (1990)

CRANNELL, C. J. The High-Energy X-Ray Spectrum of Black Hole Candidate GX 339−4 during a Transition. *J. F. Dolan, C. J. Crannell, B. R. Dennis, & L. E. Orwig.* 322, 324, 141-D1 (1987)
Energetics and Dynamics of Simple Impulsive Solar Flares. *R. Starr, W. A. Heindl, C. J. Crannell, R. J. Thomas, D. A. Batchelor, & A. Magun.* 329, 967, 87-F3 (1988)
Dynamic Evolution of the Source Volumes of Gradual and Impulsive Solar Flare Emissions. *M. E. Bruner, C. J. Crannell, F. Goetz, A. Magun, & D. L. McKenzie.* 334, 494, 160-C6 (1988)

CRAVEN, JOHN D. Measurements of the Diffuse Ultraviolet Radiation. *John D. Fix, John D. Craven, & Louis A. Frank.* 345, 203, 151-F1 (1989)

CRAWFORD, I. A. High-Resolution Observations of Interstellar Na I and Ca II Absorption Lines toward the Scorpius OB1 Association. *I. A. Crawford, M. J. Barlow, & J. C. Blades.* 336, 212, 3-F8 (1989)

CRAWFORD, M. D. The Age of the Large Magellanic Cloud Globular Cluster NGC 1651. *J. R. Mould, G. S. Da Costa, & M. D. Crawford.* 304, 265, 56-G3 (1986)

CRAWFORD, M. K. Observations of Far-Infrared Line Profiles in the Orion-KL Region. *M. K. Crawford, J. B. Lugten, W. Fitelson, R. Genzel, & G. Melnick.* 303, L57, 53-D7 (1986)
[C II] 158 Micron Mapping in Sagittarius A: Rotation Curve and Mass Distribution in the Galactic Center. *J. B. Lugten, R. Genzel, M. K. Crawford, & C. H. Townes.* 306, 691, 92-B4 (1986)
The Interstellar Medium in the Central 1 Kiloparsec of M82. *J. B. Lugten, D. M. Watson, M. K. Crawford, & R. Genzel.* 311, L51, 160-C5 (1986)

CRENSHAW, D. MICHAEL. Profiles and Profile Ratios in Seyfert 1 Galaxies. *D. Michael Crenshaw.* 62, 821, 42-C1 (1986)
Ultraviolet Observations of SN 1987A. *Robert P. Kirshner, George Sonneborn, D. Michael Crenshaw, & George E. Nassiopoulos.* 320, 602, 116-C2 (1987)
Evidence for a Supermassive Black Hole in the Nucleus of the Seyfert Galaxy NGC 5548. *D. Michael Crenshaw & James H. Blackwell, Jr.* 358, L37, 133-B7 (1990)

CRÉPEL, R. Radio Evidence for a Magnetic Mirror Effect on Beams of Subrelativistic Electrons in the Solar Corona. *C. Caroubalos, M. Poquérusse, J.-L. Bourgeret, & R. Crépel.* 319, 503, 98-F7 (1987)

CRIBB, P. H. Excitation and Dissociation of Molecular Hydrogen in Shock Waves at Interstellar Densities. *J. E. Dove, A. C. M. Rusk, P. H. Cribb, & P. G. Martin.* 318, 379, 83-A11 (1987)

CRINKLAW, GREG. Spectroscopy of the Optical Photosphere of the Hot Pulsating Star BW Vulpeculae. *Ingemar Furenlid, Arthur Young, Thomas Meylan, Chester Haag, & Greg Crinklaw.* 319, 264, 95-G9 (1987)

CRIVELLARI, L. On the Application of Iteration Factors for Temperature Correction in Stellar Atmospheres. *E. Simonneau & L. Crivellari.* 330, 415, 94-G9 (1988)

CROASDALE, MARTIN. Periodicities in Galaxy Redshifts. *Martin Croasdale.* 345, 72, 149-G8 (1989)

CROCKER, DEBORAH A. Horizontal-Branch Stars in NGC 6752 with Strong Helium Lines. *Deborah A. Crocker, Robert T. Rood, & Robert W. O'Connell.* 309, L23, 125-E1 (1986)

Multiple Populations on the Horizontal Branch. I. Observations in the ($\log g$, $\log T_{\rm eff}$)–Diagram. *Deborah A. Crocker, Robert T. Rood, & Robert W. O'Connell.* 332, 236, 125-F7 (1988)

Copper and Zinc in Very Metal-poor Stars. *Christopher Sneden & Deborah A. Crocker.* 335, 406, 175-B5 (1988)

CROMWELL, RICHARD H. Chromospheric Activity and Ages of Solar-Type Stars. *Don C. Barry, Richard H. Cromwell, & E. Keith Hege.* 315, 264, 42-G5 (1987)

CRONIN, JOHN R. Insoluble Organic Material of the Orgueil Carbonaceous Chondrite and the Unidentified Infrared Bands. *Thomas J. Wdowiak, Gregory C. Flickinger, & John R. Cronin.* 328, L75, 74-G1 (1988)

CRONIN, N. Observations of Globules and Dark Clouds in the CO J = 3–2 and J = 2–1 Lines. *L. W. Avery, Glenn J. White, I. P. Williams, & N. Cronin.* 312, 848, 12-B13 (1987)

CROSWELL, KEN. Mass Loss from FU Orionis Objects. *Ken Croswell, L. Hartmann, & E. H. Avrett.* 312, 227, 3-D6 (1987)

CROTTS, ARLIN P. S. Two-Point Correlation Function of QSO Metal Absorption Systems from an Inhomogeneous Catalog of Observations: Erratum. *Arlin P. S. Crotts.* 305, 581, 73-E9 (1986) (Orig. paper in 298, 732, 122-E9 (1985))

Discovery of Optical Echoes from Supernova 1987A: New Probes of the Large Magellanic Cloud. *Arlin P. S. Crotts.* 333, L51, 152-C5 (1988)

Spatial Structure in the Lyman-Alpha Forest. *Arlin P. S. Crotts.* 336, 550, 9-C12 (1989)

Light Echoes and Transient Luminescence near SN 1987A. *Arlin P. S. Crotts, William E. Kunkel, & Patrick J. McCarthy.* 347, L61, 199-B5 (1989)

CROWE, RICHARD A. The Visible Spectra of Southern Hemisphere Mira Variable Stars. *Richard A. Crowe & Robert F. Garrison.* 66, 69, 2-C1 (1988)

CROWNOVER, RICHARD L. The Laboratory Millimeter- and Submillimeter-Wave Spectrum of CH_3OD. *Todd Anderson, Richard L. Crownover, Eric Herbst, & Frank C. De Lucia.* 67, 135, 12-A1 (1988)

The Submillimeter-Wave Spectrum of $^{16}O^{18}O$. *Richard L. Crownover, Frank C. De Lucia, & Eric Herbst.* 349, L29, 19-D1 (1990)

CRUDDACE, R. G. *HEAO 2* X-Ray Observations of Clusters of Galaxies. *M. P. Ulmer, M. P. Kowalski, & R. G. Cruddace.* 303, 162, 42-F11 (1986)

Spartan 1 X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer Regions of the Cluster. *M. P. Ulmer, R. G. Cruddace, E. E. Fenimore, G. G. Fritz, & W. A. Snyder.* 319, 118, 94-C11 (1987)

Spartan 1 X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer Regions of the Cluster: Erratum. *M. P. Ulmer, R. G. Cruddace, E. E. Fenimore, G. G. Fritz, & W. A. Snyder.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 118, 94-C11 (1987))

X-Ray Observations of the Galactic Center by *Spartan 1. N. Kawai, E. E. Fenimore, J. Middleditch, R. G. Cruddace, G. G. Fritz, W. A. Snyder, & M. P. Ulmer.* 330, 130, 91-D11 (1988)

Spartan 1 X-Ray Observations of the Perseus Cluster. II. The Distribution of Flux and Hardness Ratio Out to a Radius of 50 Arcminutes. *W. A. Snyder, M. P. Kowalski, R. G. Cruddace, G. G. Fritz, J. Middleditch, E. E. Fenimore, M. P. Ulmer, & S. R. Majewski.* 365, 460, 213-F8 (1990)

CRUIKSHANK, D. P. Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher, H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina.* 310, L61, 138-E4 (1986)

Infrared Spectroscopy, Imaging, and 10 Micron Photometry of Giclas 29-38. *A. T. Tokunaga, K.-W. Hodapp, E. E. Becklin, D. P. Cruikshank, M. Rigler, D. Toomey, R. H. Brown, & B. Zuckerman.* 332, L71, 137-D1 (1988)

CRULL, H. E., JR. Comparisons of SiO Maser and Long-Period Variable Positions in the R Aquarii and Omicron Ceti Binary Systems. *J. M. Hollis, M. C. H. Wright, W. J. Welch, P. R. Jewell, H. E. Crull, Jr., M. Kafatos, & A. G. Michalitsianos.* 361, 663, 166-C12 (1990)

CRUSIUS, A. On the Influence of a Thermal Plasma on the Energy Loss Rates of Single Relativistic Electrons and the Formation of Electron Energy Spectra in Cosmic Radio Sources. *R. Schlickeiser & A. Crusius.* 328, 578, 69-D10 (1988)

CRUSIUS-WÄTZEL, ANDRÉ R. Depolarizing Hot Gas in Clusters of Galaxies with a Strong Double Radio Source. *André R. Crusius-Wätzel, Peter L. Biermann, Ian Lerche, & Reinhard Schlickeiser.* 360, 417, 151-E1 (1990)

Diffusive Shock Acceleration in the Lobes of the Serpens Triple Radio Source. *André R. Crusius-Wätzel.* 361, L49, 168-C6 (1990)

CRUTCHER, R. M. Detection of the OH Zeeman Effect toward Orion A. *T. H. Troland, R. M. Crutcher, & I. Kazès.* 304, L57, 66-C9 (1986)

VLA Observations of 1667 MHz OH Absorption toward Cassiopeia A. *J. H. Bieging & R. M. Crutcher.* 310, 853, 143-C4 (1986)

The CO $J = 2 \rightarrow 1$ Emission from the Interstellar Gas toward Zeta Ophiuchi. *R. M. Crutcher & S. R. Federman.* 316, L71, 62-C2 (1987)

The Magnetic Field in the Vicinity of S106. *I. Kazès, T. H. Troland, R. M. Crutcher, & C. Heiles.* 335, 263, 173-D7 (1988)

Measurement of Magnetic Field Strength in the Dark Cloud Barnard 1. *A. A. Goodman, R. M. Crutcher, C. Heiles, P. C. Myers, & T. H. Troland.* 338, L61, 49-C5 (1989)

Structure of the Magnetic Field in the W3 Core. *T. H. Troland, R. M. Crutcher, W. M. Goss, & C. Heiles.* 347, L89, 199-E5 (1989)

CRUTCHER, RICHARD M. VLA Maps of Formaldehyde Absorption toward NGC 2024. *Richard M. Crutcher, C. Henkel, T. L. Wilson, K. J. Johnston, & J. H. Bieging.* 307, 302, 98-C12 (1986)

Interstellar Abundances in Dense, Moderately Reddened Lines of Sight. I. Observational Evidence for Density-dependent Depletion. *Charles L. Joseph, Theodore P. Snow, Jr., C. Gregory Seab, & Richard M. Crutcher.* 309, 771, 129-F6 (1986)

Orion B (NGC 2024). I. VLA and IR Observations of the H II Region. *Peter J. Barnes, Richard M. Crutcher, J. H. Bieging, J. W. V. Storey, & S. P. Willner.* 342, 883, 113-C3 (1989)

Orion B (NGC 2024). II. Hat Creek Synthesis Observations of the Molecular Core in the J=1→0 Line of HCO^+. *Peter J. Barnes & Richard M. Crutcher.* 351, 176, 40-C2 (1990)

Observations of an Expanding Molecular Ring in S106. *Robert Loushin, Richard M. Crutcher, & John H. Bieging.* 362, L67, 181-D10 (1990)

CRUZ-GONZÁLEZ, I. Radio Continuum Observations of *IRAS* Sources Associated with Dense Cores. *L. F. Rodríguez, P. C. Myers, I. Cruz-González, & S. Terebey.* 347, 461, 187-F11 (1989)

CRUZ-GONZALEZ, IRENE. A Study of the Stellar Population in the Lynds 1641 Dark Cloud. I. The *IRAS* Catalog Sources. *Karen M. Strom, Goeffrey Newton, Stephen E. Strom, Robert L. Seaman, Luis Carrasco, Irene Cruz-Gonzalez, Alfonso Serrano, & Gary L. Grasdalen.* 71, 183, 37-C2 (1989)

A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)

CUDWORTH, KYLE M. The Nonthermal Stellar Dynamics of the Globular Cluster M15. *Ruth C. Peterson, Patrick Seitzer, & Kyle M. Cudworth.* 347, 251, 185-B8 (1989)

CULHANE, J. L. An *EXOSAT* Observation of Quiescent and Flare Coronal X-Ray Emission from Algol. *N. E. White, J. L. Culhane, A. N. Parmar, B. J. Kellett, S. Kahn, G. H. J. van den Oord, & J. Kuijpers.* 301, 262, 16-F14 (1986)

X-Ray Eclipse Mapping of AR Lacertae. *N. E. White, R. A. Shafer, K. Horne, A. N. Parmar, & J. L. Culhane.* 350, 776, 35-F1 (1990)

CUMMINGS, A. C. Evidence for Anomalous Cosmic-Ray Hydrogen. *E. R. Christian, A. C. Cummings, & E. C. Stone.* 334, L77, 169-D1 (1988)

CUMMINS, SALLY E. A Survey of the Millimeter-Wave Spectrum of Sagittarius B2. *Sally E. Cummins, R. A. Linke, & P. Thaddeus.* 60, 819, 12-C3 (1986)

CUNO, ANDREW. Production of Interstellar HCN and HNC. *Ronald D. Brown, Frank R. Burden, & Andrew Cuno.* 347, 855, 194-A7 (1989)

CUNTZ, MANFRED. Chromospheric Extents Predicted by Time-dependent Acoustic Wave Models. *Manfred Cuntz.* 349, 141, 15-F4 (1990)

On the Generation of Mass Loss in Cool Giant Stars Due to Propagating Shock Waves. *Manfred Cuntz.* 353, 255, 65-C1 (1990)

Stochastic Shock Waves as a Candidate Mechanism for the Formation of the He I λ10830 Line in Cool Giant Stars. *Manfred Cuntz & Donald G. Luttermoser.* 353, L39, 73-B1 (1990)

CUPERMAN, S. Theoretical Non-Maxwellian Particle Velocity Distribution Functions for Spherically Symmetric Solar Wind–like Description for Each Species. *S. Cuperman, H. Yatom, M. Dryer, & D. Lewis.* 314, 404, 32-E11 (1987)

Effect of Coupled Electron-Proton Thermal Conductivities on the Two-Fluid Solutions for the Quiet Solar Wind. *S. Cuperman, T. Detman, & M. Dryer.* 330, 466, 95-E1 (1988)

Thermally Conductive Magnetohydrodynamic Flows in Helmet-Streamer Coronal Structures. *S. Cuperman, L. Ofman, & M. Dryer.* 350, 846, 36-D13 (1990)

CURIEL, S. Large Proper Motions in the Remarkable Triple Radio Source in Serpens. *L. F. Rodríguez, S. Curiel, J. M. Moran, I. F. Mirabel, M. Roth, & G. Garay.* 346, L85, 181-D9 (1989)

The Exciting Source of the Bipolar Outflow in L1448. *S. Curiel, J. C. Raymond, L. F. Rodríguez, J. Cantó, & J. M. Moran.* 365, L85, 219-F5 (1990)

CURIEL, SALVADOR. Molecular Hydrogen and Optical Images of HH 7–11. *Patrick Hartigan, Salvador Curiel, & John Raymond.* 347, L31, 189-D9 (1989)

VLA Observations of the Herbig-Haro 1-2 System. *Luis F. Rodríguez, Paul T. P. Ho, José M. Torrelles, Salvador Curiel, & Jorge Cantó.* 352, 645, 59-A11 (1990)

CURL, R. F. Long Carbon Chain Molecules in Circumstellar Shells. *H. W. Kroto, J. R. Heath, S. C. O'Brien, R. F. Curl, & R. E. Smalley.* 314, 352, 32-A9 (1987)

CURRY, CHARLES. The Gas Environment of the Young Stellar Object GL 2591 Studied by Infrared Spectroscopy. *George F. Mitchell, Charles Curry, Jean-Pierre Maillard & Mark Allen.* 341, 1020, 97-G1 (1989)

CUTLER, CURT. The Effect of Viscosity on Neutron Star Oscillations. *Curt Cutler & Lee Lindblom.* 314, 234, 30-F4 (1987)

Damping Times for Neutron Star Oscillations. *Curt Cutler, Lee Lindblom, & Randall J. Splinter.* 363, 603, 191-F1 (1990)

CUTLER, EDWIN P. An Elliptical Binary Orbit Model of GX 1+4. *Edwin P. Cutler, Brian R. Dennis, & Joseph F. Dolan.* 300, 551, 9-B9 (1986)

CUTRI, R. M. Infrared Color-selected Quasars and Seyfert 1 Galaxies. *F. J. Low, J. P. Huchra, S. G. Kleinmann, & R. M. Cutri.* 327, L41, 61-B2 (1988)

The Properties of Infrared Color-selected Quasars. *F. J. Low, R. M. Cutri, S. G. Kleinmann, & J. P. Huchra.* 340, L1, 75-C6 (1989)

CUTRI, ROC. BE Ursae Majoris: A Detached Binary with a Unique Reprocessing Spectrum. *Donald H. Ferguson, James Liebert, Roc Cutri, Richard F. Green, S. P. Willner, João E. Steiner, & Susan Tokarz.* 316, 399, 54-D4 (1987)

CUTRIGHT, LORI C. Model Atmospheres for K and M Giants. *Jeffery A. Brown, Hollis R. Johnson, David R. Alexander, Lori C. Cutright, & Christopher M. Sharp.* 71, 623, 44-E5 (1989)

CZARNY, JEAN. Short-Term Spectral Variability in AB Aurigae: Clues for Activity in Herbig Ae Stars. II. The Ca II K Line. *Claude Catala, Paul Felenbok, Jean Czarny, Antonio Talavera, & Ann Merchant Boesgaard.* 308, 791, 117-E9 (1986)

CZERNY, B. Persistent Emission and Bursts from Aquila X-1 Observed by *Einstein*. *M. Czerny, B. Czerny, & J. E. Grindlay.* 312, 122, 2-C13 (1987)

Slim Accretion Disks. *M. A. Abramowicz, B. Czerny, J.-P. Lasota, & E. Szuszkiewicz.* 332, 646, 131-C10 (1988)

CZERNY, BOZENA. Theoretical Spectra of Nonmagnetized Low-Mass X-Ray Binaries. *Bozena Czerny, Michal Czerny, & Jonathan E. Grindlay.* 311, 241, 148-F2 (1986)

X-Ray Spectra of PG Quasars. II. The X-Ray–Ultraviolet Excess of PG 1211+143. *Jill Bechtold, Bozena Czerny, Martin Elvis, G. Fabbiano, & Richard F. Green.* 314, 699, 37-C5 (1987)

Constraints on Quasar Accretion Disks from the Optical/Ultraviolet/Soft X-Ray Big Bump. *Bozena Czerny & Martin Elvis.* 321, 305, 125-E5 (1987)

CZERNY, M. Persistent Emission and Bursts from Aquila X-1 Observed by *Einstein*. *M. Czerny, B. Czerny, & J. E. Grindlay.* 312, 122, 2-C13 (1987)

CZERNY, MICHAL. Theoretical Spectra of Nonmagnetized Low-Mass X-Ray Binaries. *Bozena Czerny, Michal Czerny, & Jonathan E. Grindlay.* 311, 241, 148-F2 (1986)

CZYZAK, STANLEY J. Atomic Structure Calculations and Nebular Diagnostics. *Stanley J. Czyzak, C. D. Keyes, & L. H. Aller.* 61, 159, 18-F1 (1986)

DA COSTA, G. S. The Age of the Large Magellanic Cloud Globular Cluster NGC 1651. *J. R. Mould, G. S. Da Costa, & M. D. Crawford.* 304, 265, 56-G3 (1986)

The Age of the Small Magellanic Cloud Globular Cluster NGC 411. *G. S. Da Costa & J. R. Mould.* 305, 214, 69-C6 (1986)

The Blue Stragglers of Omega Centauri. *G. S. Da Costa, John Norris, & Jens Verner Villumsen.* 308, 743, 117-B2 (1986)

The Age of the Large Magellanic Cloud Globular Cluster NGC 2173. *J. R. Mould, G. S. Da Costa, & F. P. Wieland.* 309, 39, 120-D4 (1986)

Intermediate-Age Core Helium-burning Stars and the Distance to the Magellanic Clouds. *E. Seidel, G. S. Da Costa, & Pierre Demarque.* 313, 192, 17-B1 (1987)

The Age of the Large Magellanic Cloud Cluster NGC 2193. *G. S. Da Costa, Christopher R. King, & J. R. Mould.* 321, 735, 132-E6 (1987)

The Globular Clusters of the Dwarf Elliptical Galaxies NGC 147, NGC 185, and NGC 205. I. Abundances. *G. S. Da Costa & J. R. Mould.* 334, 159, 156-A9 (1988)

DA COSTA, L. N. Surface Photometry of Southern Elliptical Galaxies. *R. R. de Carvalho & L. N. da Costa.* 68, 173, 25-E1 (1988)

A Catalog of Southern Groups of Galaxies. *M. A. G. Maia, L. N. da Costa, & David W. Latham.* 69, 809, 13-F1 (1989)

Voids in the Southern Galactic Cap. *P. S. Pellegrini, L. N. da Costa, & R. R. de Carvalho.* 339, 595, 59-C1 (1989)

DA COSTA, L. NICOLACI. The Southern Sky Redshift Survey. *L. Nicolaci da Costa, P. S. Pellegrini, W. L. W. Sargent, J. Tonry, M. Davis, A. Meiksin, David W. Latham, J. W. Menzies, & I. A. Coulson.* 327, 544, 54-F1 (1988)

On the Universality of the Two-Point Galaxy Correlation Function. *Marc Davis, Avery Meiksin, Michael A. Strauss, L. Nicolaci da Costa, & Amos Yahil.* 333, L9, 144-B1 (1988)

First Results from a Deeper Survey of a Southern Redshift Slice. *L. Nicolaci da Costa, Paulo S. Pellegrini, C. Willmer, & David W. Latham.* 344, 20, 133-C3 (1989)

Correlation Properties of Loose Groups. *M. A. G. Maia & L. Nicolaci da Costa.* 349, 477, 21-B8 (1990)

On the Statistical Properties of the Galaxy Distribution. *Paulo S. Pellegrini, C. N. A. Willmer, L. Nicolaci da Costa, & B. X. Santiago.* 350, 95, 26-B9 (1990)

On the Properties of Galaxies in Groups. *M. A. G. Maia & L. Nicolaci da Costa.* 352, 457, 56-G1 (1990)

Peculiar Velocity of the Local Group from Nearby Redshift Surveys. *Paulo S. Pellegrini & L. Nicolaci da Costa.* 357, 408, 117-F3 (1990)

Segregation Properties of Galaxies. *B. X. Santiago & L. Nicolaci da Costa.* 362, 386, 175-C8 (1990)

DADHICH, N. Revival of the Penrose Process for Astrophysical Applications: Erratum. *S. M. Wagh, S. V. Dhurandhar, & N. Dadhich.* 301, 1018, 26-G8 (1986) (Orig. paper in 290, 12, 23-B3 (1985))

High Efficiency of the Penrose Process of Energy Extraction from Rotating Black Holes Immersed in Electromagnetic Fields. *S. Parthasarathy, S. M. Wagh, S. V. Dhurandhar, & N. Dadhich.* 307, 38, 95-D2 (1986)

DÄPPEN, WERNER. Hypercharge, Solar Structure, and Stellar Evolution. *Ronald L. Gilliland & Werner Däppen.* 313, 429, 19-F7 (1987)

Statistical Mechanics of Partially Ionized Stellar Plasmas: The Planck-Larkin Partition Function, Polarization Shifts, and Simulations of Optical Spectra. *Werner Däppen, Lawrence Anderson, & Dimitri Mihalas.* 319, 195, 95-B6 (1987)

Oscillations in Solar Models with Weakly Interacting Massive Particles. *Ronald L. Gilliland & Werner Däppen.* 324, 1153, 16-B10 (1988)

The Equation of State for Stellar Envelopes. II. Algorithm and Selected Results. *Dimitri Mihalas, Werner Däppen, & D. G. Hummer.* 331, 815, 117-G8 (1988)

The Equation of State for Stellar Envelopes. III. Thermodynamic Quantities. *Werner Däppen, Dimitri Mihalas, D. G. Hummer, & Barbara Weibel Mihalas.* 332, 261, 126-A8 (1988)
Modeling Epsilon Eridani and Its Oscillations. *David R. Soderblom & Werner Däppen.* 342, 945, 114-A6 (1989)
Effects of Magnetic Fibrils on Solar Oscillation Frequencies: Mean Field Theory. *Ellen G. Zweibel & Werner Däppen.* 343, 994, 131-D2 (1989)
The Equation of State for Stellar Envelopes. IV. Thermodynamic Quantities and Selected Ionization Fractions for Six Elemental Mixes. *Dimitri Mihalas, D. G. Hummer, Barbara Weibel Mihalas, & Werner Däppen.* 350, 300, 28-F7 (1990)
DAGDEVIREN, N. R. Effect of Ion Correlations on Free-Free Opacities. *N. R. Dagdeviren & S. E. Koonin.* 319, 192, 95-B3 (1987)
DAHARI, OVED. The Nuclear Activity of Interacting Galaxies: Erratum. *Oved Dahari.* 60, 601, 8-F11 (1986) (Orig. paper in 57, 643, 10-A9 (1985))
Bubbles and Braided Jets in Galaxies with Compact Radio Nuclei. *Holland C. Ford, Oved Dahari, George H. Jacoby, Patrick C. Crane, & Robin Ciardullo.* 311, L7, 152-A11 (1986)
A Statistical Study of Properties of Seyfert and Starburst Galaxies. *Oved Dahari & Michael M. De Robertis.* 67, 249, 16-A1 (1988)
Extinction, Profile Asymmetry, and Tidal Effects in Seyfert and Starburst Galaxies. *Oved Dahari & Michael M. De Robertis.* 331, 727, 116-G1 (1988)
DAHLBURG, R. B. Nonlinear Evolution of Radiation-driven Thermally Unstable Fluids. *R. B. Dahlburg, C. R. DeVore, J. M. Picone, J. T. Mariska, & J. T. Karpen.* 315, 385, 44-B5 (1987)
DAHLBURG, RUSSELL B. Nonlinear Thermal Instability in the Solar Transition Region. *Judith T. Karpen, J. Michael Picone, & Russell B. Dahlburg.* 324, 590, 7-F7 (1988)
Nonlinear Thermal Instability in Magnetized Solar Plasmas. *Judith T. Karpen, Spiro K. Antiochos, J. Michael Picone, & Russell B. Dahlburg.* 338, 493, 39-A1 (1989)
DAHN, CONARD C. On the Nature of the Dwarf Carbon Star G77-61. *D. S. P. Dearborn, James Liebert, Marc Aaronson, Conard C. Dahn, Robert Harrington, Jeremy Mould, & Jesse L. Greenstein.* 300, 314, 4-E1 (1986)
The Luminosity Function of White Dwarfs. *James Liebert, Conard C. Dahn, & David G. Monet.* 332, 891, 134-B13 (1988)
DAI, DONG. A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)
DAILY, T. A Measurement of the Cosmic-Ray Primary Composition between 3×10^{13} and 3×10^{15} eV Using Underground Muons. *D. Cebula, S. C. Corbató, T. Daily, D. B. Kieda, K. Lande, C. K. Lee, & M. L. Cherry.* 358, 637, 131-D5 (1990)
DAINTY, CHRISTOPHER. The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 302, 662, 37-G8 (1986)
The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness: Erratum. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 312, 963, 13-E1 (1987) (Orig. paper in 302, 662, 37-G8 (1986))
DAKE, S. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)
DAL FIUME, D. Time Variability of Gamma Cassiopeiae in X-Rays. *F. Frontera, D. Dal Fiume, N. R. Robba, G. Manzo, S. Re, & E. Costa.* 320, L127, 121-D13 (1987)
The X-Ray Pulsar A0535+26 in Hard X-Rays: Average Spectrum, Pulse Phase Spectroscopy, and Spectral Time Variability. *D. Dal Fiume, F. Frontera, & E. Morelli.* 331, 313, 109-F1 (1988)
Observations of Galactic and Extragalactic High-Energy X-Ray Sources. *G. Matt, E. Costa, D. Dal Fiume, W. Dusi, F. Frontera, & E. Morelli.* 355, 468, 94-C1 (1990)
DALGARNO, A. Editorial: Publication Times and Volume Indexes. *Helmut A. Abt & A. Dalgarno.* 315, L71, 49-A9 (1987)
Oxygen Chemistry of Shocked Interstellar Clouds. II. Effects of Nonthermal Internal Energy on Chemical Evolution. *M. M. Graff & A. Dalgarno.* 317, 432, 68-F6 (1987)
Cosmic-Ray–induced Photodestruction of Interstellar Molecules in Dense Clouds. *A. Sternberg, A. Dalgarno, & S. Lepp.* 320, 676, 117-B11 (1987)
The Abundance of H_3^+ Ions in Dense Interstellar Clouds. *S. Lepp, A. Dalgarno, & A. Sternberg.* 321, 383, 126-D4 (1987)
The C/CO Ratio in Dense Interstellar Clouds. *R. Gredel, S. Lepp, & A. Dalgarno.* 323, L137, 164-D12 (1987)
Polycyclic Aromatic Hydrocarbons in Interstellar Chemistry. *S. Lepp & A. Dalgarno.* 324, 553, 7-C10 (1988)
Editorial: Name Change. *Helmut A. Abt & A. Dalgarno.* 328, L1, 66-D4 (1988)
Large Molecules in Diffuse Interstellar Clouds. *S. Lepp, A. Dalgarno, E. F. van Dishoeck, & J. H. Black.* 329, 418, 79-F2 (1988)
Heating of Interstellar Gas by Large Molecules or Small Grains. *S. Lepp & A. Dalgarno.* 335, 769, 181-B3 (1988)
The Infrared Response of Molecular Hydrogen Gas to Ultraviolet Radiation: High-Density Regions. *A. Sternberg & A. Dalgarno.* 338, 197, 35-D6 (1989)
Fast Molecular Shocks. I. Re-formation of Molecules behind a Dissociative Shock. *David A. Neufeld & A. Dalgarno.* 340, 869, 79-C3 (1989)
Fast Molecular Shocks. II. Emission from Fast Dissociative Shocks. *David A. Neufeld & A. Dalgarno.* 344, 251, 136-B8 (1989)
Cosmic-Ray–induced Photodissociation and Photoionization Rates of Interstellar Molecules. *R. Gredel, S. Lepp, A. Dalgarno, & E. Herbst.* 347, 289, 185-F1 (1989)
The Radiative Association of C and O and C^+ and O. *A. Dalgarno, M. L. Du, & J. H. You.* 349, 675, 23-F1 (1990)
Molecules in the Ejecta of SN 1987A. *S. Lepp, A. Dalgarno, & R. McCray.* 358, 262, 125-D1 (1990)
The Radiative Association of He^+ and H. *B. Zygelman & A. Dalgarno.* 365, 239, 209-B5 (1990)
DALLE ORE, CRISTINA M. Correlations between Line Strengths and Fine Structure in Elliptical Galaxies. *François Schweizer, Patrick Seitzer, S. M. Faber, David Burstein, Cristina M. Dalle Ore, & J. Jesus Gonzalez.* 364, L33, 205-C13 (1990)
DALL'OGLIO, G. Millimeter Observations of the Magellanic Clouds. *P. Andreani, C. Ceccarelli, G. Dall'Oglio, L. Martinis, L. Piccirillo, L. Pizzo, L. Rossi, & C. Venturino.* 348, 467, 8-D3 (1990)
DALL'OGLIO, GIORGIO. Observations of Cosmic Background Radiation Anisotropy from Antarctica. *Giorgio Dall'Oglio & Paolo de Bernardis.* 331, 547, 112-D11 (1988)
DALY, R. A. The Masses of Rich Clusters of Galaxies as a Test of the Biased Cold Dark Matter Theory. *P. J. E. Peebles, R. A. Daly, & R. Juszkiewicz.* 347, 563, 190-C1 (1989)
A Model to Explain the Correlation between the Optical and Radio Properties of High-Redshift Galaxies. *R. A. Daly.* 355, 416, 93-E8 (1990)
A Possible Origin of Galactic Magnetic Fields. *R. A. Daly & A. Loeb.* 364, 451, 201-E12 (1990)
DALY, RUTH A. The Origin of the Diffuse X-Ray Background and the Formation of Galaxies and Voids. *Ruth A. Daly.* 322, 20, 138-B12 (1987)
Unstable Matter and the 1–10 MeV Gamma-Ray Background. *Ruth A. Daly.* 324, L47, 18-B5 (1988)
An Interpretation of the Excess Energy Density Observed on the Wien Side of the Microwave Background Radiation. *Ruth A. Daly.* 333, L1, 144-A5 (1988)
The Gasdynamics of Compact Relativistic Jets. *Ruth A. Daly & Alan P. Marscher.* 334, 539, 162-C1 (1988)
DAMÉ, L. Observation and Oscillatory Properties of Mesostructures in the Solar Chromosphere. *L. Damé & M. Martic.* 314, L15, 33-C2 (1987)
DAME, T. M. Molecular Clouds and Star Formation in the Inner Galaxy: A Comparison of CO, H II, and Far-Infrared Surveys.

P. C. Myers, T. M. Dame, P. Thaddeus, R. S. Cohen, R. F. Silverberg, E. Dwek, & M. G. Hauser. 301, 398, 18-B12 (1986)

The Columbia CO Survey of Molecular Clouds in the First Galactic Quadrant. *R. S. Cohen, T. M. Dame, & P. Thaddeus.* 60, 695, 10-A1 (1986)

The Largest Molecular Cloud Complexes in the First Galactic Quadrant. *T. M. Dame, B. G. Elmegreen, R. S. Cohen, & P. Thaddeus.* 305, 892, 78-F1 (1986)

A Composite CO Survey of the Entire Milky Way. *T. M. Dame, H. Ungerechts, R. S. Cohen, E. J. de Geus, I. A. Grenier, J. May, D. C. Murphy, L.-Å. Nyman, & P. Thaddeus.* 322, 706, 147-D13 (1987)

A Complete Survey of the Large Magellanic Cloud. *R. S. Cohen, T. M. Dame, G. Garay, J. Montani, M. Rubio, & P. Thaddeus.* 331, L95, 121-E11 (1988)

CO Observations of the Cepheus Flare. I. Molecular Clouds Associated with a Nearby Bubble. *I. A. Grenier, F. Lebrun, M. Arnaud, T. M. Dame, & P. Thaddeus.* 347, 231, 185-A1 (1989)

DAMEN, E. *EXOSAT* Observations of 4U/MXB 1636–53: On the Relation between the Amount of Accreted Fuel and the Strength of an X-Ray Burst. *W. H. G. Lewin, W. Penninx, J. van Paradijs, E. Damen, M. Sztajno, J. Trümper, & M. van der Klis.* 319, 893, 104-F9 (1987)

Correlation of X-Ray Burst Properties with Source State in the "Atoll" Source 4U/MXB 1636–53. *M. van der Klis, G. Hasinger, E. Damen, W. Penninx, J. van Paradijs, & W. H. G. Lewin.* 360, L19, 149-D1 (1990)

DANCHI, W. C. High Spatial Resolution 10 Micron Imaging of IRC +10216. *E. E. Bloemhof, W. C. Danchi, C. H. Townes, & R. A. McLaren.* 333, 300, 141-D2 (1988)

CO $J = 3$–2 Observations of the Neutral Disk in Sagittarius A West. *E. C. Sutton, W. C. Danchi, P. A. Jaminet, & C. R. Masson.* 348, 503, 8-G10 (1990)

Location and Phase of Dust Formation in IRC +10216 Indicated by 11 Micron Spatial Interferometry. *W. C. Danchi, M. Bester, C. G. Degiacomi, P. R. McCullough, & C. H. Townes.* 359, L59, 144-C10 (1990)

DANESE, L. Measurements of the Cosmic Background Radiation Temperature at 6.3 Centimeters. *N. Mandolesi, P. Calzolari, S. Cortiglioni, G. Morigi, L. Danese, & G. De Zotti.* 310, 561, 140-A1 (1986)

Interpretation of Deep Counts of Radio Sources. *L. Danese, G. De Zotti, A. Franceschini, & L. Toffolatti.* 318, L15, 85-B2 (1987)

The Autocorrelation Properties of Fluctuations in the Cosmic X-Ray Background. *M. Persic, G. De Zotti, E. A. Boldt, F. E. Marshall, L. Danese, A. Franceschini, & G. G. C. Palumbo.* 336, L47, 16-E1 (1989)

Atmospheric Emission Models: Confrontation between Observational Data and Predictions in the 2.5–300 GHz Frequency Range. *L. Danese & R. B. Partridge.* 342, 604, 108-B10 (1989)

Discrete Source Contributions to Small-Scale Anisotropies of the Microwave Background. *A. Franceschini, L. Toffolatti, L. Danese, & G. De Zotti.* 344, 35, 133-D8 (1989)

Contributions of Low-Luminosity Sources to the X-Ray Background. *M. Persic, G. De Zotti, L. Danese, G. G. C. Palumbo, A. Franceschini, E. A. Boldt, & F. E. Marshall.* 344, 125, 134-E10 (1989)

Constraints on Large-Scale Clustering from the Autocorrelation Properties of the X-Ray Background. *G. De Zotti, M. Persic, A. Franceschini, L. Danese, G. G. C. Palumbo, E. A. Boldt, & F. E. Marshall.* 351, 22, 38-C10 (1990)

DANIEL, R. R. Far-Infrared (120–300 Micron) Observations of the Carina Nebula. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 330, 928, 102-F6 (1988)

Far-Infrared (120–300 Micron) Observations of Southern H II Regions. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 69, 233, 4-D1 (1989)

Far-Infrared and Radio Observations of the W31 Star-forming Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, R. R. Daniel, & Paul T. P. Ho.* 347, 338, 186-C3 (1989)

Far-Infrared Observations of G351.6–1.3/G351.7–1.2 Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 353, 564, 71-A1 (1990)

DANIEL, ROBERT G. The Reaction of C^+ with HCN: Isomeric Identity of the C_2H^+ Product. *Robert G. Daniel, Eric R. Keim, & James M. Farrar.* 303, 439, 45-G11 (1986)

DANIELSON, G. E. Halos around Planetary Nebulae. *David C. Jewitt, G. E. Danielson, & P. N. Kupferman.* 302, 727, 38-E8 (1986)

The Luminosity Function and Space Density of the Most Luminous Galaxies in the *IRAS* Survey. *B. T. Soifer, D. B. Sanders, G. Neugebauer, G. E. Danielson, Carol J. Lonsdale, B. F. Madore, & S. E. Persson.* 303, L41, 53-C5 (1986)

Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, J. S. Young, B. T. Soifer, F. P. Schloerb, W. L. Rice, & G. E. Danielson.* 305, L45, 80-B12 (1986)

Detection of CO($1 \rightarrow 0$) Emission and Optical Imaging of the Seyfert Galaxy/QSO Markarian 231. *D. B. Sanders, J. S. Young, N. Z. Scoville, B. T. Soifer, & G. E. Danielson.* 312, L5, 7-A8 (1987)

The *IRAS* Bright Galaxy Sample. II. The Sample and Luminosity Function. *B. T. Soifer, D. B. Sanders, B. F. Madore, G. Neugebauer, G. E. Danielson, J. H. Elias, Carol J. Lonsdale, & W. L. Rice.* 320, 238, 110-F7 (1987)

DANIELSON, G. EDWARD. A Deep Hα Image of Faint Balmer-Line Filaments in the Northeast Cygnus Loop Supernova Remnant. *J. Jeff Hester, John C. Raymond, & G. Edward Danielson.* 303, L17, 47-B7 (1986)

DANKS, A. C. High-Resolution Spectroscopy of the C_2 Swan 0–0 Band from Comet P/Halley. *D. L. Lambert, Y. Sheffer, A. C. Danks, C. Arpigny, & P. Magain.* 353, 640, 71-G6 (1990)

Optical Spectroscopy of the High-Latitude Cloud Lynds 1569. *B. E. Penprase, J. C. Blades, A. C. Danks, & P. Crane.* 365, 241, 209-B7 (1990)

DANKS, ANTHONY C. On the CH^+ Ion in Diffuse Interstellar Clouds. *David L. Lambert & Anthony C. Danks.* 303, 401, 45-E1 (1986)

Cosmic Background Radiation Temperature from CN Absorption. *Philippe Crane, Dennis J. Hegyi, Nazzareno Mandolesi, & Anthony C. Danks.* 309, 822, 130-C8 (1986)

DANLY, LAURA. The Kinematics of Milky Way Halo Gas. I. Observations of Low-Ionization Species. *Laura Danly.* 342, 785, 112-B7 (1989)

D'ANTONA, F. Evolution from the Main Sequence to the White Dwarf Stage for a 3 $M_\odot$ Star. *I. Mazzitelli & F. D'Antona.* 308, 706, 116-F4 (1986)

The Relationship between Initial and Minimum Final White Dwarf Mass for Population I Stars. *I. Mazzitelli & F. D'Antona.* 311, 762, 156-B1 (1986)

The Fastest Evolving White Dwarfs. *F. D'Antona & I. Mazzitelli.* 347, 934, 195-B7 (1989)

D'ANTONA, FRANCESCA. Evolution of Very Low Mass Stars and Brown Dwarfs. II. The Population II. *Francesca D'Antona.* 320, 653, 117-A1 (1987)

DANZIGER, JOHN. The Ultraviolet Spectrum of an Oxygen-rich Supernova Remnant in the Small Magellanic Cloud. *William P. Blair, John C. Raymond, John Danziger, & Francesca Matteucci.* 338, 812, 44-A9 (1989)

DAOU, D. Spectroscopic Studies and Atmospheric Parameters of Pulsating DA White Dwarf (ZZ Ceti) Stars. *D. Daou, F. Wesemael, P. Bergeron, G. Fontaine, & J. B. Holberg.* 364, 242, 197-A11 (1990)

DAR, ARNON. Neutrino Annihilation in Type II Supernovae. *Jeremy Goodman, Arnon Dar, & Shmuel Nussinov.* 314, L7, 33-B9 (1987)

Could Unstable Relic Particles Distort the Microwave Background Radiation? *Arnon Dar, Abraham Loeb, & Shmuel Nussinov.* 338, L41, 49-A10 (1989)

DARBRO, W. Accretion onto Neutron Stars with the Presence of a Double Layer. *A. C. Williams, M. C. Weisskopf, R. F. Elsner, W. Darbro, & P. G. Sutherland.* 305, 759, 77-C1 (1986)

Observations of Quasi-periodic Oscillations from GX 5–1 and Cygnus X-2 with the *Einstein* (*HEAO 2*) Observatory. *R. F. Elsner, M. C. Weisskopf, W. Darbro, B. D. Ramsey, A. C. Williams, P. G. Sutherland, & J. E. Grindlay.* 308, 655, 116-B7 (1986)

DAS, M. K. On Multimode Pulsations of Degenerate Stellar Models. *M. K. Das, Harinder Pal Singh, & J. N. Tandon.* 346, 289, 169-F7 (1989)

DAS GUPTA, P. Associations between Quasi-stellar Objects and Galaxies. *G. Burbidge, A. Hewitt, J. V. Narlikar, & P. Das Gupta.* 74, 675, 40-C2 (1990)

DATTA, B. Effects of Spacetime Curvature and Rotation on Arrival Times of Pulses from Fast Pulsars. *R. C. Kapoor & B. Datta.* 311, 680, 155-C1 (1986)

Limits on Rotation-induced Characteristics of Radiation from Stable Rapidly Rotating Neutron Stars. *B. Datta & R. C. Kapoor.* 331, 784, 117-E1 (1988)

DAU, W. D. Searches for Narrow-Angle Anisotropies in the Primary Energy Range 0.1–10 TeV: Erratum. *O. C. Allkofer, W. D. Dau, H. Jokisch, G. Klemke, R. C. Uhr, G. Bella, & Y. Oren.* 305, 954, 79-D10 (1986) (Orig. paper in 291, 468, 40-A2 (1985))

DAUB, C. T. Temperature and Emission-Measure Distributions for Several Planetary Nebulae. *J. P. Basart & C. T. Daub.* 317, 412, 68-D14 (1987)

DAUGHERTY, J. K. Cascade Model of Gamma-Ray Bursts. *P. A. Sturrock, A. K. Harding, & J. K. Daugherty.* 346, 950, 179-A1 (1989)

DAUGHERTY, JOSEPH K. Compton Scattering in Strong Magnetic Fields. *Joseph K. Daugherty & Alice K. Harding.* 309, 362, 123-G7 (1986)

Comptonization of Thermal Photons by Relativistic Electron Beams. *Joseph K. Daugherty & Alice K. Harding.* 336, 861, 13-B11 (1989)

D'AURIA, J. M. Stellar Reaction Rates of Alpha Capture on Light ($N \neq Z$) Nuclei and Their Astrophysical Implications. *L. Buchmann, J. M. D'Auria, & P. McCorquodale.* 324, 953, 14-A6 (1988)

DAVELAAR, J. X-Ray Spectral Observations of the Crab-like Supernova Remnants G21.5–0.9 and 3C 58. *J. Davelaar, A. Smith, & R. H. Becker.* 300, L59, 13-D10 (1986)

EXOSAT Observations of the Tycho Supernova Remnant. *A. Smith, J. Davelaar, A. Peacock, B. G. Taylor, M. Morini, & N. R. Robba.* 325, 288, 22-C7 (1988)

DAVID, L. P. Heat Conduction in Cooling Flows. *Joel N. Bregman & L. P. David.* 326, 639, 40-F2 (1988)

Alternative Models of Cooling Flows. *Joel N. Bregman & L. P. David.* 341, 49, 84-E9 (1989)

Einstein Observations of the Hydra A Cluster and the Efficiency of Galaxy Formation in Groups and Clusters. *L. P. David, K. A. Arnaud, W. Forman, & C. Jones.* 356, 32, 99-D7 (1990)

The Evolution of the Interstellar Medium in Elliptical Galaxies. I. The Early Wind Phase. *L. P. David, W. Forman, & C. Jones.* 359, 29, 134-D7 (1990)

DAVID, LAURENCE P. The Evolution of Active Galactic Nuclei. I. Models without Stellar Evolution. *Laurence P. David, Richard H. Durisen, & Haldan N. Cohn.* 313, 556, 22-G9 (1987)

The Evolution of Active Galactic Nuclei. II. Models with Stellar Evolution. *Laurence P. David, Richard H. Durisen, & Haldan N. Cohn.* 316, 505, 57-E4 (1987)

The Growth of Thermal Instabilities in Cooling Flows. *Laurence P. David, Joel N. Bregman, & C. Gregory Seab.* 329, 66, 75-F4 (1988)

The Effects of Magnetic Fields on the Growth of Thermal Instabilities in Cooling Flows. *Laurence P. David & Joel N. Bregman.* 337, 97, 18-C4 (1989)

The Evolution of Active Galactic Nuclei. III. The Effects of Relativistic Particles on the Intercloud Medium. *Laurence P. David & Richard H. Durisen.* 346, 618, 175-B6 (1989)

DAVIDGE, T. J. Two Micron Spectroscopy of the Blue Compact Dwarf Galaxy Haro 2. *T. J. Davidge & J.-P. Maillard.* 351, 432, 45-D8 (1990)

Two Micron Spectroscopy of Galactic and M31 Globular Clusters. *T. J. Davidge.* 351, L37, 49-C8 (1990)

Absorption-Line Gradients in the Optical Spectrum of the M31 Globular Cluster Vetesnik 42. *T. J. Davidge, D. Alloin, & P. Jablonka.* 358, L1, 127-A6 (1990)

DAVIDSON, J. A. Low-Luminosity Embedded Sources and Their Environs. *J. A. Davidson.* 315, 602, 47-C4 (1987)

The Polarization of the Far-Infrared Radiation from the Galactic Center. *M. W. Werner, J. A. Davidson, M. Morris, G. Novak, S. R. Platt, & R. H. Hildebrand.* 333, 729, 148-C1 (1988)

Far-Infrared and Submillimeter Photometric Mapping of Spiral Galaxies in the Virgo Cluster. *A. A. Stark, J. A. Davidson, S. Platt, D. A. Harper, R. Pernic, R. Loewenstein, G. Engargiola, & S. Casey.* 337, 650, 27-B1 (1989)

The Far-Infrared Polarization of the Orion Nebula. *D. P. Gonatas, G. A. Engargiola, R. H. Hildebrand, S. R. Platt, X. D. Wu, J. A. Davidson, G. Novak, D. K. Aitken, & C. Smith.* 357, 132, 112-F4 (1990)

The Magnetic Field in the Dust Ring at the Center of the Galaxy. *R. H. Hildebrand, D. P. Gonatas, S. R. Platt, X. D. Wu, J. A. Davidson, M. W. Werner, G. Novak, & M. Morris.* 362, 114, 170-E3 (1990)

DAVIDSON, KRIS. Ultraviolet and Visual Wavelength Spectroscopy of Gas around Eta Carinae. *Kris Davidson, Reginald J. Dufour, Nolan R. Walborn, & Theodore R. Gull.* 305, 867, 78-D3 (1986)

The Relation between Apparent Temperature and Mass-Loss Rate in Hypergiant Eruptions. *Kris Davidson.* 317, 760, 74-C12 (1987)

DAVIES, PAUL B. Millimeter-Wave Laboratory Spectrum of Metastable Nitrogen Atoms, ^{14}N I ^2D_J. *Marcel Bogey, Paul B. Davies, Ian H. Davis, & Jean Luc Destombes.* 339, L49, 58-E1 (1989)

DAVIES, R. D. Michigan 160: Internal Kinematics and the Cosmic Distance Scale. *L. Staveley-Smith, J. Bland, D. J. Axon, R. D. Davies, & R. M. Sharples.* 364, 23, 194-C11 (1990)

DAVIES, ROGER. Luminous M Giants in the Bulge of M31. *R. Michael Rich, Jeremy Mould, Alain Picard, Jay A. Frogel, & Roger Davies.* 341, L51, 99-F4 (1989)

DAVIES, ROGER L. The Dynamics of the Active Galaxy NGC 1052. *Roger L. Davies & Garth D. Illingworth.* 302, 234, 30-D10 (1986)

NGC 4261: A Prolate Elliptical Galaxy. *Roger L. Davies & M. Birkinshaw.* 303, L45, 53-C9 (1986)

NGC 4261: A Prolate Elliptical Galaxy: Erratum. *Roger L. Davies & M. Birkinshaw.* 309, L67, 125-G14 (1986) (Orig. paper in 303, L45, 53-C9 (1986))

Spectroscopy and Photometry of Elliptical Galaxies. I. New Distance Estimator. *Alan Dressler, Donald Lynden-Bell, David Burstein, Roger L. Davies, S. M. Faber, Roberto Terlevich, & Gary Wegner.* 313, 42, 15-D7 (1987)

Spectroscopy and Photometry of Elliptical Galaxies: A Large-Scale Streaming Motion in the Local Universe. *Alan Dressler, S. M. Faber, David Burstein, Roger L. Davies, Donald Lynden-Bell, R. J. Terlevich, & Gary Wegner.* 313, L37, 27-A9 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. II. The Spectroscopic Parameters. *Roger L. Davies, David Burstein, Alan Dressler, S. M. Faber, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 581, 26-B1 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. III. *UBV* Aperture Photometry, CCD Photometry, and Magnitude-related Parameters. *David Burstein, Roger L. Davies, Alan Dressler, S. M. Faber, Remington P. S. Stone, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 601, 26-C7 (1987)

Photometry and Spectroscopy of Elliptical Galaxies. V. Galaxy Streaming toward the New Supergalactic Center. *D. Lynden-Bell, S. M. Faber, David Burstein, Roger L. Davies, Alan Dressler, R. J. Terlevich, & Gary Wegner.* 326, 19, 32-B12 (1988)

The Orientations of the Rotation Axes of Radio Galaxies. II. Stellar Rotation Curves and Velocity Dispersion Profiles. *Roger L. Davies & M. Birkinshaw.* 68, 409, 29-B1 (1988)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 69, 763, 12-G7 (1989)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary: Erratum. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 71, 173, 36-E7 (1989) (Orig. paper in 69, 763, 12-G7 (1989))

Velocity Mapping and Models of the Elliptical Galaxies NGC 720, NGC 1052, and NGC 4697. *J. J. Binney, Roger L. Davies, & Garth D. Illingworth.* 361, 78, 158-A5 (1990)

DAVIES, S. R. Observations of A0535+26 with the *SMM* Satellite. *S. Sembay, R. A. Schwartz, S. R. Davies, L. E. Orwig, & B. R. Dennis.* 351, 675, 48-E1 (1990)

DAVILA, JOSEPH M. Heating of the Solar Corona by the Resonant Absorption of Alfvén Waves. *Joseph M. Davila.* 317, 514, 69-E4 (1987)

A Theory for the Radiation of Magnetohydrodynamic Surface Waves and Body Waves into the Solar Corona. *Joseph M. Davila.* 332, 1076, 136-C6 (1988)

The Accretion of Interplanetary Dust by Ap and Am Stars. *C. Krishna Kumar, Joseph M. Davila, & R. Rajan Sundar.* 337, 414, 22-D9 (1989)

DAVIS, ANDREW M. Large Negative ^{50}Ti Anomalies in Refractory Inclusions from the Murchison Carbonaceous Chondrite: Evidence for Incomplete Mixing of Neutron-rich Supernova Ejecta into the Solar System. *Richard W. Hinton, Andrew M. Davis, & Debra E. Scatena-Wachel.* 313, 420, 19-E12 (1987)

DAVIS, C. G. Application of Time-dependent Fourier Analysis to Nonlinear Pulsational Stellar Models. *G. Kovács, J. R. Buchler, & C. G. Davis.* 319, 247, 95-F6 (1987)

DAVIS, D. S. H_2 Spectroscopy as an Agent for Extinction Determinations: The Near-Infrared Curve for the Orion Molecular Cloud. *D. S. Davis, H. P. Larson, & R. Hofmann.* 304, 481, 59-B10 (1986)

DAVIS, D. SCOTT. Velocity-resolved Observations of Water in Comet Halley. *Harold P. Larson, D. Scott Davis, Michael J. Mumma, & Harold A. Weaver.* 309, L95, 131-F7 (1986)

DAVIS, IAN H. Millimeter-Wave Laboratory Spectrum of Metastable Nitrogen Atoms, ^{14}N I ^2D_J. *Marcel Bogey, Paul B. Davies, Ian H. Davis, & Jean Luc Destombes.* 339, L49, 58-E1 (1989)

DAVIS, J. M. The Plasma and Magnetic Field Properties of Coronal Loops Observed at High Spatial Resolution. *D. F. Webb, G. D. Holman, J. M. Davis, M. R. Kundu, & R. K. Shevgaonkar.* 315, 716, 48-D11 (1987)

DAVIS, JOHN H. Submillimeter Spectral Line Observations in Very Dense Regions. *Neal J. Evans II, Lee G. Mundy, John H. Davis, & Paul Vanden Bout.* 312, 344, 4-E13 (1987)

DAVIS, L. E. The Origin of Cosmic Rays. I. Observations of the Spiral Galaxy NGC 3310. *Nebojsa Duric, E. R. Seaquist, Patrick C. Crane, & L. E. Davis.* 304, 82, 54-G3 (1986)

DAVIS, M. The Southern Sky Redshift Survey. *L. Nicolaci da Costa, P. S. Pellegrini, W. L. W. Sargent, J. Tonry, M. Davis, A. Meiksin, David W. Latham, J. W. Menzies, & I. A. Coulson.* 327, 544, 54-F1 (1988)

Dynamic Spectra of Radio Bursts from Flare Stars. *T. S. Bastian, J. Bookbinder, G. A. Dulk, & M. Davis.* 353, 265, 65-D1 (1990)

DAVIS, M. M. Fundamental Astrometry and Millisecond Pulsars. *L. A. Rawley, J. H. Taylor, & M. M. Davis.* 326, 947, 44-A1 (1988)

The Spatial Extent of the $z = 2.04$ Absorber in the Spectrum of PKS 0458–020. *F. H. Briggs, A. M. Wolfe, H. S. Liszt, M. M. Davis, & K. L. Turner.* 341, 650, 93-C5 (1989)

DAVIS, MARC. Velocity Fields around Rich Clusters of Galaxies. *Jens V. Villumsen & Marc Davis.* 308, 499, 114-D1 (1986)

Fundamental Properties of Elliptical Galaxies. *S. Djorgovski & Marc Davis.* 313, 59, 15-E14 (1987)

Clusters, Filaments, and Voids in a Universe Dominated by Cold Dark Matter. *Simon D. M. White, Carlos S. Frenk, Marc Davis, & George Efstathiou.* 313, 505, 22-C11 (1987)

The Formation of Dark Halos in a Universe Dominated by Cold Dark Matter. *Carlos S. Frenk, Simon D. M. White, Marc Davis, & George Efstathiou.* 327, 507, 54-C1 (1988)

On the Universality of the Two-Point Galaxy Correlation Function. *Marc Davis, Avery Meiksin, Michael A. Strauss, L. Nicolaci da Costa, & Amos Yahil.* 333, L9, 144-B1 (1988)

Clustering Bias in the Nearby Galaxies Catalog and in Cold Dark Matter Models. *Simon D. M. White, R. Brent Tully, & Marc Davis.* 333, L45, 152-B13 (1988)

Cosmological Velocity Correlations: Observations and Model Predictions. *Krzysztof Górski, Marc Davis, Michael A. Strauss, Simon D. M. White, & Amos Yahil.* 344, 1, 133-A9 (1989)

Galaxy Clusters and the Amplitude of Primordial Fluctuations. *Carlos S. Frenk, Simon D. M. White, George Efstathiou, & Marc Davis.* 351, 10, 38-B11 (1990)

A Redshift Survey of IRAS Galaxies. I. Sample Selection. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 361, 49, 157-E11 (1990)

DAVIS, R. J. Radio Observations of the 1985 Outburst of RS Ophiuchi. *R. M. Hjellming, J. H. van Gorkom, E. R. Seaquist, A. R. Taylor, S. Padin, R. J. Davis, & M. F. Bode.* 305, L71, 80-D9 (1986)

DAVIS, SUMNER P. Oscillator Strengths of the CN Red System. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engleman, Jr., John G. Phillips, & Robert P. Hubbard.* 303, 892, 52-D8 (1986)

Oscillator Strengths of the CN Red System: Erratum. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engelman, Jr., John G. Phillips, & Robert P. Hubbard.* 307, 414, 99-E10 (1986) (Orig. paper in 303, 892, 52-D8 (1986))

Transition Rates for the TiO β, δ, ϕ, γ', γ, and α Systems. *Sumner P. Davis, J. E. Littleton, & John G. Phillips.* 309, 449, 124-G5 (1986)

The Near-Infrared Spectrum of the FeH Molecule. *John G. Phillips, Sumner P. Davis, Bo Lindgren, & Walter J. Balfour.* 65, 721, 39-F2 (1987)

On the Rotation and Vibration-Rotation Spectrum of FeH. *John G. Phillips & Sumner P. Davis.* 66, 227, 4-F1 (1988)

Energy Levels of Zirconium Oxide. *Sumner P. Davis & Philip D. Hammer.* 332, 1090, 136-D6 (1988)

Transition Strength Data for the Orange and Red Bands of CaCl. *J. E. Littleton & Sumner P. Davis.* 333, 1026, 151-F1 (1988)

The Spectrum of the TiCl Molecule in the 4200 Å Region. *John G. Phillips & Sumner P. Davis.* 71, 163, 36-D3 (1989)

Highly Excited Rotational States of the Meinel System of OH. *Mark C. Abrams, Sumner P. Davis, M. L. P. Rao, & Rolf Engleman, Jr.* 363, 326, 186-B11 (1990)

DAWE, J. A. Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)

DAWSON, B. R. Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

DAWSON, P. C. The Luminosity Function of the Halo Population in the Solar Neighborhood. *P. C. Dawson.* 311, 984, 158-E13 (1986)

DAWSON, SILVINA PONCE. An Analysis of Unidimensional Soliton Gas Models of Magnetohydrodynamic Turbulence in the Solar Wind. *Silvina Ponce Dawson & Constantino Ferro Fontán.* 348, 761, 12-A3 (1990)

DE AMICI, G. The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 325, 1, 19-A7 (1988)

The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz: Erratum. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 1, 19-A7 (1988))

A Measurement of the Cosmic Microwave Background Radiation Temperature at 1.410 GHz. *S. M. Levin, C. Witebsky, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, & G. F. Smoot.* 334, 14, 154-B9 (1988)

A Measurement of the Temperature of the Cosmic Microwave Background at a Frequency of 7.5 GHz. *A. Kogut, M. Bensadoun, G. De Amici, S. Levin, G. F. Smoot, & C. Witebsky.* 355, 102, 88-C6 (1990)

DE AMICI, GIOVANNI. New Measurements of the Cosmic Background Radiation Temperature at 3.3 Millimeter Wavelength. *Chris Witebsky, George Smoot, Giovanni De Amici, & Scott D. Friedman.* 310, 145, 133-E10 (1986)

Long-Wavelength Measurements of the Cosmic Microwave Background Radiation Spectrum. *George F. Smoot, Marc Bensadoun,*

Marco Bersanelli, Giovanni De Amici, Alan Kogut, Steve Levin, & Chris Witebsky. 317, L45, 78-A9 (1987)
Measurement of the Intensity of the Cosmic Background Radiation at 3.7 GHz. *Giovanni De Amici, George F. Smoot, Jon Aymon, Marco Bersanelli, Al Kogut, Steven M. Levin, & Chris Witebsky.* 329, 556, 82-F8 (1988)
An Analysis of Recent Measurements of the Temperature of the Cosmic Microwave Background Radiation. *George Smoot, Steven M. Levin, Chris Witebsky, Giovanni De Amici, & Yoel Rephaeli.* 331, 653, 116-A6 (1988)
Measurements of the Cosmic Microwave Background Radiation Temperature at 90 GHz. *Marco Bersanelli, Chris Witebsky, Marc Bensadoun, Giovanni De Amici, Al Kogut, Steven M. Levin, & George F. Smoot.* 339, 632, 59-F7 (1989)
The Temperature of the Cosmic Background Radiation: Results from the 1987 and 1988 Measurements at 3.8 GHz. *Giovanni De Amici, Marc Bensadoun, Marco Bersanelli, Al Kogut, Steve Levin, George F. Smoot, & Chris Witebsky.* 359, 219, 136-G1 (1990)
DEAN, A. J. Hard X-Ray Observations of Cygnus X-1 with the MISO Telescope. *F. Perotti, A. Della Ventura, G. Villa, L. Bassani, R. C. Butler, G. Di Cocco, R. E. Baker, A. J. Dean, & C. G. Hanson.* 300, 297, 4-C12 (1986)
A Broad-Band Contemporaneous Study of the Seyfert Galaxy NGC 4151. *L. Bassani, R. C. Butler, G. Di Cocco, A. Della Ventura, F. Perotti, G. Villa, R. E. Baker, A. J. Dean, & T. J. Lee.* 311, 623, 154-F1 (1986)
Gamma-Ray Observations of Cygnus X-1. *L. Bassani, A. J. Dean, G. Di Cocco, F. Perotti, & J. B. Stephen.* 343, 313, 122-A10 (1989)
Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)
Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)
Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)
DE ARAUJO, J. C. N. Formation of Voids from Negative Density Perturbations. *J. C. N. de Araujo & R. Opher.* 350, 502, 32-E1 (1990)
DEARBORN, D. S. P. On the Nature of the Dwarf Carbon Star G77-61. *D. S. P. Dearborn, James Liebert, Marc Aaronson, Conard C. Dahn, Robert Harrington, Jeremy Mould, & Jesse L. Greenstein.* 300, 314, 4-E1 (1986)
Destruction of ^{3}He in Stars. *D. S. P. Dearborn, David N. Schramm, & Gary Steigman.* 302, 35, 28-C13 (1986)
Possible Contributions by Wolf-Rayet Stars to the Protosolar Nebula: Extinct Radioactivities, or Grains of Truth from Wolf-Rayet Stars? *D. S. P. Dearborn & J. B. Blake.* 332, 305, 126-E1 (1988)
A Local Source of ^{26}Al Gamma Rays. *J. B. Blake & D. S. P. Dearborn.* 338, L17, 40-D1 (1989)
DEARBORN, DAVID. A Stellar Evolution Bound on Radiative Particle Decays and the Cosmic Microwave Background Distortion. *Georg Raffelt, David Dearborn, & Joseph Silk.* 336, 61, 1-G1 (1989)
Dark Matter and Thermal Pulses in Horizontal-Branch Stars. *David Dearborn, Georg Raffelt, Pierre Salati, Joseph Silk, & Alain Bouquet.* 354, 568, 83-D3 (1990)
Thermal Relaxation Oscillations in Horizontal-Branch Stars. *Pierre Salati, Georg Raffelt, & David Dearborn.* 357, 566, 119-F1 (1990)
DEARBORN, DAVID S. P. Stellar Photonuclear Reactions and the Actinide Cosmochronometers. *Robert A. Malaney, Grant J. Mathews, & David S. P. Dearborn.* 345, 169, 151-B9 (1989)
The Shocking Development of Lithium (and Boron) in Supernovae. *David S. P. Dearborn, David N. Schramm, Gary Steigman, & James Truran.* 347, 455, 187-F5 (1989)
Main-Sequence Mass Loss and the Lithium Dip. *David N. Schramm, Gary Steigman, & David S. P. Dearborn.* 359, L55, 144-C6 (1990)
DE BEER, C. F. A New Powerful Test for Periodic Pulsed Emission of High-Energy Photons. *J. W. H. Swanepoel & C. F. de Beer.* 350, 754, 35-D2 (1990)
DE BERGH, C. Monodeuterated Methane in the Outer Solar System. II. Its Detection on Uranus at 1.6 Microns. *C. de Bergh, B. L. Lutz, T. Owen, J. Brault, & J. Chauville.* 311, 501, 151-D14 (1986)
Monodeuterated Methane in the Outer Solar System. III. Its Abundance on Titan. *C. de Bergh, B. L. Lutz, T. Owen, & J. Chauville.* 329, 951, 87-E1 (1988)
Monodeuterated Methane in the Outer Solar System. IV. Its Detection and Abundance on Neptune. *C. de Bergh, B. L. Lutz, T. Owen, & J.-P. Maillard.* 355, 661, 96-G1 (1990)
DE BERNARDIS, P. Far-Infrared Diffuse Emission: Cosecant *b* Law and Galaxy Counts. *P. de Bernardis, S. Masi, F. Melchiorri, G. Moreno, R. Vannoni, & S. Aiello.* 326, 941, 43-G8 (1988)
Infrared Emission from Interplanetary Dust. *P. Temi, P. de Bernardis, S. Masi, G. Moreno, & A. Salama.* 337, 528, 24-B1 (1989)
On the Dipole and Quadrupole Kinematic Anisotropy in the Brightness of the Cosmic Background Radiation. *P. de Bernardis, M. Epifani, G. Guarini, S. Masi, F. Melchiorri, & B. Melchiorri.* 353, 145, 64-A1 (1990)
Search for Cosmological Emission Lines: A New Method. *P. de Bernardis, S. Masi, B. Melchiorri, & F. Melchiorri.* 357, 8, 111-B10 (1990)
A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)
DE BERNARDIS, PAOLO. Observations of Cosmic Background Radiation Anisotropy from Antarctica. *Giorgio Dall'Oglio & Paolo de Bernardis.* 331, 547, 112-D11 (1988)
Extragalactic Infrared Backgrounds, Polarization, and Universal Magnetic Field. *Paolo de Bernardis, Silvia Masi, Francesco Melchiorri, & Giovanni Moreno.* 340, L45, 83-A10 (1989)
Data Analysis and Monte Carlo Simulation of a Cosmic Background Radiation Anisotropy Experiment. *Nicola Vittorio, Paolo de Bernardis, Silvia Masi, & Roberto Scaramella.* 341, 163, 86-A1 (1989)
DE BLASI, C. Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. II. RT Andromedae. *M. Zeilik, D. A. Cox, C. De Blasi, M. Rhodes, & E. Budding.* 345, 991, 162-G5 (1989)
DE BLASI, CECILIA. A Half-Century of Starspot Activity on SV Camelopardalis. *Michael Zeilik, Cecilia De Blasi, Michael Rhodes, & Edwin Budding.* 332, 293, 126-D1 (1988)
DE BOER, KLAAS S. Ultraviolet Observations of Interstellar Absorption Lines toward SN 1987A. *Blair D. Savage, Edward B. Jenkins, Charles L. Joseph, & Klaas S. de Boer.* 345, 393, 154-A12 (1989)
DEBRUNNER, H. Solar Neutron Emissivity during the Large Flare on 1982 June 3. *E. L. Chupp, H. Debrunner, E. Flückiger, D. J. Forrest, F. Golliez, G. Kanbach, W. T. Vestrand, J. Cooper, & G. Share.* 318, 913, 91-A1 (1987)
Proton Energy Spectra at the Sun in the Solar Cosmic-Ray Events on 1978 May 7 and 1984 February 16. *J. A. Lockwood, H. Debrunner, E. O. Flückiger, & H. Grädel.* 355, 287, 90-D8 (1990)
Signature of the Solar Cosmic-Ray Event on 1982 June 3. *H. Debrunner, E. O. Flückiger, & J. A. Lockwood.* 73, 259, 21-C1 (1990)
Were Solar Neutrons Observed by Neutron Monitors on 1984 April 25? *D. F. Smart, M. A. Shea, E. O. Flückiger, H. Debrunner, & J. E. Humble.* 73, 269, 21-D5 (1990)
DE CARVALHO, R. R. Surface Photometry of Southern Elliptical Galaxies. *R. R. de Carvalho & L. N. da Costa.* 68, 173, 25-E1 (1988)
Voids in the Southern Galactic Cap. *P. S. Pellegrini, L. N. da Costa, & R. R. de Carvalho.* 339, 595, 59-C1 (1989)
A New Family of Distance Indicator Relations for Elliptical Galaxies. *R. R. de Carvalho & S. Djorgovski.* 341, L37, 99-E5 (1989)
DECHER, R. Very Extended Infrared Emission at the Center of M51: The Role of Star Formation. *C. M. Telesco, R. Decher, & Ian Gatley.* 302, 632, 37-E3 (1986)
Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher, H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina.* 310, L61, 138-E4 (1986)

Star Formation in the Magellanic Irregular Galaxy NGC 4449. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, D. A. Harper, & R. Decher.* 317, 180, 66-A3 (1987)

The Infrared Structure and the Origin of the Starburst Disk in NGC 1068. *C. M. Telesco & R. Decher.* 334, 573, 162-F1 (1988)

Small Grains in M82: A Dusty Halo Surrounding the Starburst. *C. M. Telesco, R. Decher, & M. Joy.* 343, L13, 125-C5 (1989)

High Spatial Resolution Mapping of the Cepheus A Region at 20, 50, and 100 Microns. *H. B. Ellis, Jr., D. F. Lester, P. M. Harvey, M. Joy, C. M. Telesco, R. Decher, & M. W. Werner.* 365, 287, 210-A6 (1990)

DECHER, RUDOLF. The Far-Infrared Structure of the Luminous Interacting Galaxy Arp 299 (NGC 3690). *Marshall Joy, Daniel F. Lester, Paul M. Harvey, C. M. Telesco, Rudolf Decher, Lee J Rickard, & Howard Bushouse.* 339, 100, 51-C8 (1989)

DECKER, R. B. The Role of Drifts in Diffusive Shock Acceleration. *R. B. Decker.* 324, 566, 7-D10 (1988)

DECKER, ROBERT B. Numerical Studies of Particle Acceleration at Turbulent, Oblique Shocks with an Application to Prompt Ion Acceleration during Solar Flares. *Robert B. Decker & Loukas Vlahos.* 306, 710, 92-C10 (1986)

DEETER, J. E. Vela X-1 Pulse Timing. I. Determination of the Neutron Star Orbit. *P. E. Boynton, J. E. Deeter, F. K. Lamb, & G. Zylstra.* 307, 545, 103-A1 (1986)

Apsidal Advance in Vela X-1. *J. E. Deeter, P. E. Boynton, F. K. Lamb, & G. Zylstra.* 314, 634, 36-E1 (1987)

Vela X-1 Pulse Timing. II. Variations in Pulse Frequency. *J. E. Deeter, P. E. Boynton, F. K. Lamb, & G. Zylstra.* 336, 376, 5-G7 (1989)

DEETER, JOHN. *Ginga* Observations of the 50 Millisecond Pulsar PSR 0540−69. *Fumiaki Nagase, John Deeter, Wayne Lewis, Tadayasu Dotani, Fumiyoshi Makino, & Kazuhisa Mitsuda.* 351, L13, 43-C1 (1990)

DEFORREST, ALLEN. The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)

DEFREES, D. J. A Reanalysis of the HCO^+/HOC^+ Abundance Ratio in Dense Interstellar Clouds. *Martin F. Jarrold, Michael T. Bowers, D. J. DeFrees, A. D. McLean, & Eric Herbst.* 303, 392, 45-D6 (1986)

Ab Initio Molecular Orbital Studies of Low-Energy, Metastable Isomers of the Ubiquitous Cyclopropenylidene. *D. J. DeFrees & A. D. McLean.* 308, L31, 113-G10 (1986)

Ion-Molecule Calculation of the Abundance Ratio of CCD to CCH in Dense Interstellar Clouds. *Eric Herbst, Nigel G. Adams, David Smith, & D. J. DeFrees.* 312, 351, 4-F7 (1987)

Collisional Excitation of Interstellar Cyclopropenylidene. *Sheldon Green, D. J. DeFrees, & A. D. McLean.* 65, 175, 29-F11 (1987)

A Detailed Investigation of Proposed Gas-Phase Syntheses of Ammonia in Dense Interstellar Clouds. *Eric Herbst, D. J. DeFrees, & A. D. McLean.* 321, 898, 134-D1 (1987)

Collisional Excitation of Interstellar Waters. *Amedeo Palma, Sheldon Green, D. J. DeFrees, & A. D. McLean.* 68, 287, 27-C7 (1988)

Collisional Excitation of Interstellar Water: Addendum. *A. Palma, S. Green, D. J. DeFrees, & A. D. McLean.* 70, 681, 28-A9 (1989) (Orig. paper in 68, 287, 27-C7 (1988))

DE FREITAS PACHECO, J. A. The Chemical Composition of the Emitting Gas in HM Sagittae. *J. A. de Freitas Pacheco, S. J. Codina-Landaberry, & Dalton F. Lopes.* 337, 520, 24-A1 (1989)

A Spectroscopic Study of Nova Centauri 1986. *J. A. de Freitas Pacheco, Roberto Dell'Agio Dias da Costa, & S. J. Codina.* 347, 483, 188-A7 (1989)

DE FTEITAS PACHECO, J. A. Friedmann-like Collapsing Radiating Sphere. *R. Chan, J. P. S. Lemos, N. O. Santos, & J. A. de Fteitas Pacheco.* 342, 976, 114-D1 (1989)

DE GEUS, E. J. A Composite CO Survey of the Entire Milky Way. *T. M. Dame, H. Ungerechts, R. S. Cohen, E. J. de Geus, I. A. Grenier, J. May, D. C. Murphy, L.-Å. Nyman, & P. Thaddeus.* 322, 706, 147-D13 (1987)

DEGIACOMI, C. G. Location and Phase of Dust Formation in IRC +10216 Indicated by 11 Micron Spatial Interferometry. *W. C. Danchi, M. Bester, C. G. Degiacomi, P. R. McCullough, & C. H. Townes.* 359, L59, 144-C10 (1990)

DE GOUVEIA DAL PINO, ELISABETE M. The Origin of Filaments in Extended Radio Sources. *Elisabete M. de Gouveia Dal Pino & Reuven Opher.* 342, 686, 111-A10 (1989)

DE GRAAUW, TH. Carbon Monoxide in the Magellanic Clouds. *F. P. Israel, Th. de Graauw, H. van de Stadt, & C. P. de Vries.* 303, 186, 43-B4 (1986)

DE GRÈVE, J. P. Stellar Evolution in the Upper Hertzsprung-Russell Diagram. *C. Doom, J. P. De Grève, & C. de Loore.* 303, 136, 42-D13 (1986)

DEGRIJP, M. H. K. Infrared-selected "Warm" Galaxies Observed in X-Rays. *Paul J. Green, Martin Ward, Scott F. Anderson, Bruce Margon, M. H. K. DeGrijp, & George K. Miley.* 339, 93, 51-B14 (1989)

DEGUCHI, S. Water Maser Emission toward V788 Cygni, a Carbon Star. *Y. Nakada, H. Izumiura, T. Onaka, O. Hashimoto, N. Ukita, S. Deguchi, & T. Tanabé.* 323, L77, 158-F6 (1987)

Position Confirmation of Water Maser Emission from V778 Cygni, a Carbon Star. *S. Deguchi, R. Kawabe, N. Ukita, Y. Nakada, T. Onaka, H. Izumiura, & Sadanori Okamura.* 325, 795, 29-C5 (1988)

A Sensitive Line Search in Circumstellar Envelopes. *Nguyen-Quang-Rieu, S. Deguchi, H. Izumiura, N. Kaifu, M. Ohishi, H. Suzuki, & Nobuharu Ukita.* 330, 374, 94-D1 (1988)

Expanding Molecular Torus around the Planetary Nebula IRAS 21282+5050. *K. M. Shibata, S. Tamura, S. Deguchi, N. Hirano, O. Kameya, & T. Kasuga.* 345, L55, 157-E9 (1989)

Molecular Envelope of the Planetary Nebula NGC 7027. *S. Deguchi, H. Izumiura, N. Kaifu, X. Mao, Nguyen-Q-Rieu, & N. Ukita.* 351, 522, 46-E9 (1990)

DEGUCHI, SHUJI. Circular Polarization of Astrophysical Masers Due to Overlap of Zeeman Components. *Shuji Deguchi & William D. Watson.* 300, L15, 7-B6 (1986)

Astrophysical Masers with Magnetic Fields and Velocity Gradients. *Shuji Deguchi, William D. Watson, & Lonny R. Western.* 302, 108, 29-B10 (1986)

Astrophysical Water Masers in the Presence of Magnetic Fields. *Shuji Deguchi & William D. Watson.* 302, 750, 38-G11 (1986)

HCN Emission from Bipolar Reflection Nebulae. *Shuji Deguchi, Mark J. Claussen, & Paul F. Goldsmith.* 303, 810, 51-D3 (1986)

Bowen Fluorescence Mechanisms in X-Ray Binaries: Erratum. *Shuji Deguchi.* 303, 901, 52-E3 (1986) (Orig. paper in 291, 492, 40-B12 (1985))

Diffraction in Gravitational Lensing for Compact Objects of Low Mass. *Shuji Deguchi & William D. Watson.* 307, 30, 95-C8 (1986)

Electron Scintillation in Gravitationally Lensed Images of Astrophysical Radio Sources. *Shuji Deguchi & William D. Watson.* 315, 440, 45-E4 (1987)

An Analytic Treatment of Gravitational Microlensing for Sources of Finite Size at Large Optical Depths. *Shuji Deguchi & William D. Watson.* 335, 67, 171-A1 (1988)

Interacting Masers and the Extreme Brightness of Astrophysical Water Masers. *Shuji Deguchi & William D. Watson.* 340, L17, 75-D11 (1989)

Laboratory Microwave Spectroscopy of the Linear C_3 and C_3D Radicals and Related Astronomical Observation. *Satoshi Yamamoto, Shuji Saito, Hiroko Suzuki, Shuji Deguchi, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 348, 363, 5-E1 (1990)

Linearly Polarized Radiation from Astrophysical Masers Due to Magnetic Fields When the Rate for Stimulated Emission Exceeds the Zeeman Frequency. *Shuji Deguchi & William D. Watson.* 354, 649, 84-D1 (1990)

H_2O Emission from Evolved Stars at the Far-Infrared and Submillimeter Wavelengths. *Shuji Deguchi & Nguyen-Q-Rieu.* 360, L27, 149-D11 (1990)

DEICH, W. T. S. Null Transition Times, Quantized Drift Modes, and No Memory across Nulls for PSR 1944+17. *W. T. S. Deich, J. M. Cordes, T. H. Hankins, & J. M. Rankin.* 300, 540, 9-A10 (1986)

DEISS, B. M. Heating of the Intracluster Medium. *A. Just, B. M. Deiss, W. H. Kegel, H. Böhringer, & G. E. Morfill.* 354, 400, 81-D1 (1990)

DE JAGER, CORNELIS. Fast Variations in the Ultraviolet Resonance Lines of α Camelopardalis (O9.5 Ia): Evidence for Blobs in the

Wind. *Henny J. G. L. M. Lamers, Theodore P. Snow, Cornelis de Jager, & A. Langerwerf.* 325, 342, 23-A2 (1988)

DE JAGER, O. C. Pulsed Very High Energy Gamma Rays from the *COS B* Source 2CG 006–00. *B. C. Raubenheimer, A. R. North, O. C. de Jager, G. van Urk, & A. J. van Tonder.* 307, L43, 107-B5 (1986)

A TeV Triple Peak from PSR 1509–58? *O. C. de Jager, B. C. Raubenheimer, A. R. North, H. I. Nel, & G. Van Urk.* 329, 831, 86-B4 (1988)

The Temporal Structure of Very High Energy Gamma Rays from Vela X-1. *B. C. Raubenheimer, A. R. North, O. C. de Jager, & H. I. Nel.* 336, 394, 6-B1 (1989)

Temporal Structure of Very High Energy Gamma Radiation from PSR 1509–58. *H. I. Nel, O. C. de Jager, B. C. Raubenheimer, A. R. North, & C. Brink.* 361, 181, 159-C1 (1990)

MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

DE JONG, T. *IRAS* Low-Resolution Spectrograph Observations of Silicate and Molecular SiO Emission in Mira Variables. *M. S. Vardya, T. de Jong, & F. J. Willems.* 304, L29, 61-C2 (1986)

A Catalog of *IRAS* Observations of Large Optical Galaxies. *W. Rice, Carol J. Lonsdale, B. T. Soifer, G. Neugebauer, E. L. Koplan, Lawrence A. Lloyd, T. de Jong, & H. J. Habing.* 68, 91, 24-F1 (1988)

DE JONG, TEIJE. Carbon Stars with Oxygen-rich Circumstellar Dust Shells: Observational Evidence for the Onset of the Carbon Star Phase. *Frits J. Willems & Teije de Jong.* 309, L39, 125-F1 (1986)

DE JONGE, JOOST KIEWIET. A Study of Upgren 1. *George Gatewood, Joost Kiewiet de Jonge, Michael Castelaz, Inwoo Han, Timothy Persinger, James Prosser, Thomas Reiland, & John Stein.* 332, 917, 134-D12 (1988)

DEJONGHE, HERWIG. On Entropy and Stellar Systems. *Herwig Dejonghe.* 320, 477, 114-F3 (1987)

Radial and Nonradial Stability of Spherical Stellar Systems. *Herwig Dejonghe & David Merritt.* 328, 93, 62-A10 (1988)

A Simple Dynamical Model for Stars in the Galactic Halo. *Herwig Dejonghe & Tim de Zeeuw.* 329, 720, 84-E9 (1988)

Analytic Axisymmetric Galaxy Models with Three Integrals of Motion. *Herwig Dejonghe & Tim de Zeeuw.* 333, 90, 139-A1 (1988)

A Quadratic Programming Technique for Modeling Gravitating Systems. *Herwig Dejonghe.* 343, 113, 119-E5 (1989)

DEKANY, RICHARD. The Detection of High-Velocity Outflows from M8E-IR. *George F. Mitchell, Mark Allen, Reinhard Beer, Richard Dekany, Wesley Huntress, & Jean-Pierre Maillard.* 327, L17, 53-B6 (1988)

DEKEL, AVISHAI. The Origin of Dwarf Galaxies, Cold Dark Matter, and Biased Galaxy Formation. *Avishai Dekel & Joseph Silk.* 303, 39, 41-D6 (1986)

Gravitational Lenses and Decay of Dark Matter. *Avishai Dekel & Tsvi Piran.* 315, L83, 49-B6 (1987)

Profiles of Clusters of Galaxies: Cosmological Scenarios versus Observations. *Michael J. West, Avishai Dekel, & Augustus Oemler, Jr.* 316, 1, 50-A8 (1987)

Very Large Scale Structure in an Open Cosmology of Cold Dark Matter and Baryons. *George R. Blumenthal, Avishai Dekel, & Joel R. Primack.* 326, 539, 39-D9 (1988)

Subclustering in Rich Clusters of Galaxies and Their Environs. *Michael J. West, Augustus Oemler, Jr., & Avishai Dekel.* 327, 1, 47-A7 (1988)

Biased Galaxy Formation in the Neutrino Scenario. *Erez Braun, Avishai Dekel, & Paul R. Shapiro.* 328, 34, 62-D1 (1988)

Superclustering in the Explosion Scenario. *David H. Weinberg, Jeremiah P. Ostriker, & Avishai Dekel.* 336, 9, 1-B9 (1989)

Cosmological Alignment of Clusters of Galaxies with Their Surroundings: A Problem for Cold Dark Matter? *Michael J. West, Avishai Dekel, & Augustus Oemler, Jr.* 336, 46, 1-E12 (1989)

Recovering the Full Velocity and Density Fields from Large-Scale Redshift-Distance Samples. *Edmund Bertschinger & Avishai Dekel.* 336, L5, 8-C1 (1989)

Projection Contamination in Cluster Catalogs: Are the Abell Redshift Sample Correlations Significant? *Avishai Dekel, George R. Blumenthal, Joel R. Primack, & Scot Olivier.* 338, L5, 40-B11 (1989)

The Clustering of Dwarf Galaxies. *Jo Ann Eder, James M. Schombert, Avishai Dekel, & Augustus Oemler, Jr.* 340, 29, 67-C10 (1989)

The Probability of Arc Lensing by Clusters of Galaxies. *Robert J. Nemiroff & Avishai Dekel.* 344, 51, 133-E13 (1989)

Radiation Pressure in Intergalactic Clouds. *Erez Braun & Avishai Dekel.* 345, 31, 149-D3 (1989)

The Radius-Mass Relation for Clusters of Galaxies: Cosmological Scenarios versus Observations. *Michael J. West, Augustus Oemler, Jr., & Avishai Dekel.* 346, 539, 174-C1 (1989)

Properties of Clusters of Galaxies in the Explosion Scenario. *Michael J. West, David H. Weinberg, & Avishai Dekel.* 353, 329, 68-C1 (1990)

Angular Correlations in Decontaminated Abell Catalogs. *Scot Olivier, George R. Blumenthal, Avishai Dekel, Joel R. Primack, & David Stanhill.* 356, 1, 99-B1 (1990)

Filamentary Structure from Gaussian Fluctuations Using the Adhesion Approximation. *Adi Nusser & Avishai Dekel.* 362, 14, 169-C1 (1990)

Potential, Velocity, and Density Fields from Sparse and Noisy Redshift-Distance Samples: Method. *Avishai Dekel, Edmund Bertschinger, & S. M. Faber.* 364, 349, 200-C11 (1990)

Potential, Velocity, and Density Fields from Redshift-Distance Samples: Application: Cosmography within 6000 Kilometers per Second. *Edmund Bertschinger, Avishai Dekel, S. M. Faber, Alan Dressler, & David Burstein.* 364, 370, 200-E6 (1990)

DE KOOL, M. A Model for the X-Ray and Optical Emission from A0620–00. *M. de Kool.* 334, 336, 158-B6 (1988)

Common Envelope Evolution and Double Cores of Planetary Nebulae. *M. de Kool.* 358, 189, 124-D8 (1990)

DE KOOL, MARTIJN. Self-absorbed Synchrotron Sources in Active Galactic Nuclei. *Martijn de Kool, Mitchell C. Begelman, & Marek Sikora.* 337, 66, 17-G5 (1989)

Effects of Thermal Plasma on Self-absorbed Synchrotron Sources in Active Galactic Nuclei. *Martijn de Kool & Mitchell C. Begelman.* 345, 135, 150-F4 (1989)

DE KORTE, P. A. J. *EXOSAT* Observations of the Cassiopeia A Supernova Remnant. *F. Jensen, A. Smith, J. A. M. Bleeker, P. A. J. de Korte, A. Peacock, & N. E. White.* 331, 949, 119-D4 (1988)

Non–Equilibrium Ionization Effects in the Supernova Remnant RCW 86. *J. J. Claas, A. Smith, J. S. Kaastra, P. A. J. de Korte, & A. Peacock.* 337, 399, 22-C6 (1989)

DE LA BEAUJARDIÈRE, JEAN-FRANÇOIS. Magnetohydrodynamic Waves and Particle Acceleration in a Coronal Loop. *Jean-François de La Beaujardière & Ellen G. Zweibel.* 336, 1059, 15-E10 (1989)

DE LA NOË, J. Kinematics of the H II Region Sharpless 142. III. Molecular Line Observations and Analysis of the *IRAS* Data. *Gilles Joncas, C. Kömpe, & J. de La Noë.* 332, 1030, 135-G1 (1988)

DE LAPPARENT, VALÉRIE. A Slice of the Universe. *Valérie de Lapparent, Margaret J. Geller, & John P. Huchra.* 302, L1, 35-A4 (1986)

The Shane-Wirtanen Counts: Systematics and Two-Point Correlation Function. *Valérie de Lapparent, Michael J. Kurtz, & Margaret J. Geller.* 304, 585, 62-C5 (1986)

The Mean Density and Two-Point Correlation Function for the CfA Redshift Survey Slices. *Valérie de Lapparent, Margaret J. Geller, & John P. Huchra.* 332, 44, 123-E5 (1988)

The Luminosity Function for the CfA Redshift Survey Slices. *Valérie de Lapparent, Margaret J. Geller, & John P. Huchra.* 343, 1, 118-A9 (1989)

The CfA Redshift Survey: Data for the NGP +30 Zone. *John P. Huchra, Margaret J. Geller, Valérie de Lapparent, & Harold G. Corwin, Jr.* 72, 433, 8-B1 (1990)

DE LA REZA, RAMIRO. Discovery of New Isolated T Tauri Stars. *Ramiro de la Reza, Carlos A. O. Torres, Germano Quast, Bruno V. Castilho, & Gladys L. Vieira.* 343, L61, 132-D1 (1989)

DEL GRATTA, C. X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215–086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

DELIYANNIS, CONSTANTINE P. The Ages of Globular Cluster Stars: Effects on Rotation of Pre–Main-Sequence, Main-Sequence, and Turnoff Evolution. *Constantine P. Deliyannis, Pierre Demarque, & Marc H. Pinsonneault.* 347, L73, 199-D1 (1989)

Lithium in Halo Stars from Standard Stellar Evolution. *Constantine P. Deliyannis, Pierre Demarque, & Steven D. Kawaler.* 73, 21, 17-C11 (1990)

Beryllium in the Galactic Halo: Surface Abundances from Standard, Diffusive, and Rotational Stellar Evolution, and Implications. *Constantine P. Deliyannis & Marc H. Pinsonneault.* 365, L67, 219-D7 (1990)

DELLA CECA, R. A Catalog of X-Ray Measurements of Selected Samples of Active Galaxies and Nuclei. *R. Della Ceca, G. G. C. Palumbo, M. Persic, E. A. Boldt, G. De Zotti, & F. E. Marshall.* 72, 471, 8-G7 (1990)

DELLA VALLE, MASSIMO. Distances of the Virgo and Coma Clusters of Galaxies through Novae and Supernovae. *Massimo Capaccioli, Enrico Cappellaro, Massimo Della Valle, Mauro D'Onofrio, Leonida Rosino, & Massimo Turatto.* 350, 110, 26-D1 (1990)

Distance of the Large Magellanic Cloud through the Maximum Magnitude versus Rate of Decline Relation for Novae. *Massimo Capaccioli, Massimo Della Valle, Mauro D'Onofrio, & Leonida Rosino.* 360, 63, 145-G4 (1990)

DELLA VENTURA, A. Hard X-Ray Observations of Cygnus X-1 with the MISO Telescope. *F. Perotti, A. Della Ventura, G. Villa, L. Bassani, R. C. Butler, G. Di Cocco, R. E. Baker, A. J. Dean, & C. G. Hanson.* 300, 297, 4-C12 (1986)

A Broad-Band Contemporaneous Study of the Seyfert Galaxy NGC 4151. *L. Bassani, R. C. Butler, G. Di Cocco, A. Della Ventura, F. Perotti, G. Villa, R. E. Baker, A. J. Dean, & T. J. Lee.* 311, 623, 154-F1 (1986)

DE LOORE, C. Stellar Evolution in the Upper Hertzsprung-Russell Diagram. *C. Doom, J. P. De Grève, & C. de Loore.* 303, 136, 42-D13 (1986)

Nucleosynthesis and Evolution of Massive Stars with Mass Loss and Overshooting. *N. Prantzos, C. Doom, M. Arnould, & C. de Loore.* 304, 695, 63-E12 (1986)

DELPINO, F. Preliminary VLA Limits on the Sunyaev-Zel'dovich Effect in Abell 2218. *R. B. Partridge, R. A. Perley, N. Mandolesi, & F. Delpino.* 317, 112, 65-B11 (1987)

DEL POZO-SANZ, R. Field Effects on the Luminosity Segregation Analysis of Distant Clusters of Galaxies. *R. Domínguez-Tenreiro & R. del Pozo-Sanz.* 324, 677, 10-F11 (1988)

DELSEMME, A. H. Neutral Cometary Atmospheres. V. C_2 and CN in Comets. *M. R. Combi & A. H. Delsemme.* 308, 472, 113-C3 (1986)

DEL TORO INIESTA, J. C. Circular Polarization of the Ca II H and K Lines in Solar Quiet and Active Regions. *V. Martínez Pillet, R. J. García López, J. C. del Toro Iniesta, R. Rebolo, M. Vázquez, J. E. Beckman, & S. Char.* 361, L81, 168-F6 (1990)

DE LUCA, A. A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)

DELUCA, EDWARD E. Angular Momentum Transport and Dynamo Action in the Sun: Implications of Recent Oscillation Measurements. *Peter A. Gilman, Cherilynn A. Morrow, & Edward E. DeLuca.* 338, 528, 39-C12 (1989)

DE LUCIA, FRANK C. The Laboratory Millimeter-Wave Spectrum of Methyl Formate in Its Ground Torsional *E* State. *Grant M. Plummer, Eric Herbst, Frank C. De Lucia, & Geoffrey A. Blake.* 60, 949, 15-A2 (1986)

C-Type Transitions in Methyl Formate. *Grant M. Plummer, Eric Herbst, & Frank C. De Lucia.* 318, 873, 90-E3 (1987)

The Laboratory Millimeter- and Submillimeter-Wave Spectrum of ^{13}C Methanol. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 64, 703, 27-E4 (1987)

The Laboratory Millimeter- and Submillimeter-Wave Spectrum of CH_3OD. *Todd Anderson, Richard L. Crownover, Eric Herbst, & Frank C. De Lucia.* 67, 135, 12-A1 (1988)

The Laboratory Millimeter- and Submillimeter-Wave Spectrum of the First Two Excited Torsional States of $^{13}CH_3OH$. *Todd Anderson, Eric Herbst, Frank C. De Lucia, K. V. L. N. Sastry, & R. M. Lees.* 68, 821, 36-A1 (1988)

The Submillimeter-Wave Spectrum of $^{16}O^{18}O$. *Richard L. Crownover, Frank C. De Lucia, & Eric Herbst.* 349, L29, 19-D1 (1990)

Additional Measurements and a Refined Analysis of the Millimeter- and Submillimeter-Wave Spectrum of Methanol. *Todd Anderson, Frank C. De Lucia, & Eric Herbst.* 72, 797, 16-C7 (1990)

The Millimeter- and Submillimeter-Wave Spectrum of $^{13}CH_3OH$ Revisited. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 74, 647, 39-C11 (1990)

DEMARQUE, P. The Evolution of Red Clump Stars: Theoretical Sequences. *E. Seidel, P. Demarque, & D. Weinberg.* 63, 917, 15-B13 (1987)

Evolutionary Models of the Rotating Sun. *M. H. Pinsonneault, Steven D. Kawaler, S. Sofia, & P. Demarque.* 338, 424, 38-B11 (1989)

The Standard Solar Model: Composition, Opacities, and Seismology. *D. B. Guenther, A. Jaffe, & P. Demarque.* 345, 1022, 163-C3 (1989)

Rotation of Low-Mass Stars: A New Probe of Stellar Evolution. *M. H. Pinsonneault, Steven D. Kawaler, & P. Demarque.* 74, 501, 37-B11 (1990)

DEMARQUE, PIERRE. The Case of α Centauri: Mass, Age, and p-Mode Oscillation Spectrum. *Pierre Demarque, D. B. Guenther, & William F. van Altena.* 300, 773, 11-F3 (1986)

The Stellar Seismology of ϵ Eridani. *D. B. Guenther & Pierre Demarque.* 301, 207, 16-C1 (1986)

Intermediate-Age Core Helium-burning Stars and the Distance to the Magellanic Clouds. *E. Seidel, G. S. Da Costa, & Pierre Demarque.* 313, 192, 17-B1 (1987)

A Map-based Determination of the Nature of Beta Delphini. *George Gatewood, Michael Castelaz, Timothy Persinger, John Stein, Pierre Demarque, Sabatino Sofia, & Bruce Stephenson.* 342, 1085, 115-E7 (1989)

The Ages of Globular Cluster Stars: Effects on Rotation of Pre–Main-Sequence, Main-Sequence, and Turnoff Evolution. *Constantine P. Deliyannis, Pierre Demarque, & Marc H. Pinsonneault.* 347, L73, 199-D1 (1989)

The Horizontal-Branch Stars in Globular Clusters. I. The Period-Shift Effect, the Luminosity of the Horizontal Branch, and the Age-Metallicity Relation. *Young-Wook Lee, Pierre Demarque, & Robert Zinn.* 350, 155, 27-A9 (1990)

Lithium in Halo Stars from Standard Stellar Evolution. *Constantine P. Deliyannis, Pierre Demarque, & Steven D. Kawaler.* 73, 21, 17-C11 (1990)

The Evolution of Horizontal-Branch Stars: Theoretical Sequences. *Young-Wook Lee & Pierre Demarque.* 73, 709, 28-A1 (1990)

A New Age Diagnostic Applied to the Globular Clusters NGC 288 and NGC 362. *Ata Sarajedini & Pierre Demarque.* 365, 219, 208-G9 (1990)

DE MARTINO, D. X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215−086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

DEMERS, S. Abundance Anomalies in Hot Horizontal-Branch Stars of the Globular Cluster NGC 6752. *J. W. Glaspey, G. Michaud, A. F. J. Moffat, & S. Demers.* 339, 926, 63-C1 (1989)

Hot Degenerates in the MCT Survey. I. MCT 0130−1937, a New, Color-selected PG 1159 Object. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 351, 271, 41-D2 (1990)

Hot Degenerates in the MCT Survey. I. MCT 0130−1937, a New, Color-selected PG 1159 Object: Erratum. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 357, 291, 114-F6 (1990) (Orig. paper in 351, 271, 41-D2 (1990))

DEMING, D. Detection of 12 Micron Mg I and OH Lines in Stellar Spectra. *D. E. Jennings, D. Deming, G. R. Wiedemann, & J. J. Keady.* 310, L39, 138-C12 (1986)

DEMING, DRAKE. On the Apparent Velocity of Integrated Sunlight. I. 1983–1985. *Drake Deming, Fred Espenak, Donald E. Jennings, James W. Brault, & Jeremy Wagner.* 316, 771, 60-E4 (1987)

Solar Magnetic Field Studies Using the 12 Micron Emission Lines. I. Quiet-Sun Time Series and Sunspot Slices. *Drake Deming, Robert J. Boyle, Donald E. Jennings, & Gunter Wiedemann.* 333, 978, 151-B1 (1988)

Mg I Absorption Features in the Solar Spectrum near 9 and 12 Microns. *David A. Glenar, Dennis C. Reuter, Drake Deming, & Edward S. Chang.* 335, L35, 177-D1 (1988)

Solar Magnetic Field Studies Using the 12 Micron Emission Lines. I. Quiet-Sun Time Series and Sunspot Slices: Erratum. *Drake Deming, Robert J. Boyle, Donald E. Jennings, & Gunter Wiedemann.* 338, 1193, 48-C12 (1989) (Orig. paper in 333, 978, 151-B1 (1988))

A Search for *p*-Mode Oscillations of Jupiter: Serendipitous Observations of Nonacoustic Thermal Wave Structure. *Drake Deming, Michael J. Mumma, Fred Espenak, Donald E. Jennings, Theodor Kostiuk, Gunter Wiedemann, Robert Loewenstein, & Joseph Piscitelli.* 343, 456, 123-F7 (1989)

Observations of the 12.3 Micron Mg I Emission Line during a Major Solar Flare. *Drake Deming, Tilak Hewagama, Donald E. Jennings, Vladimir Osherovich, & Gunter Wiedemann.* 364, L49, 205-E7 (1990)

DEMMEL, V. A Discrete-Time Model for Inhomogeneous Spherical Accretion onto Neutron Stars. *V. Demmel, G. Morfill, & H. Atmanspacher.* 354, 616, 84-A1 (1990)

DEMPSEY, ROBERT. The Active Chromosphere Binary HD 17433 (VY Arietis). *Bernard W. Bopp, Steven H. Saar, Carol Ambruster, Paul Feldman, Robert Dempsey, Morgan Allen, & Samuel C. Barden.* 339, 1059, 64-G1 (1989)

DEMPSEY, ROBERT C. Hα Spectroscopy of Active Chromosphere Stars. I. Six G–K Giants. *Bernard W. Bopp, Robert C. Dempsey, & Steven Maniak.* 68, 803, 35-F1 (1988)

Chromospheric Ca II H and K and Hα Emission in Single and Binary Stars of Spectral Types F6–M2. *Klaus G. Strassmeier, Francis C. Fekel, Bernard W. Bopp, Robert C. Dempsey, & Gregory W. Henry.* 72, 191, 4-D7 (1990)

DE MUIZON, M. New Emission Features in the Infrared Spectra of Two IRAS Sources. *M. de Muizon, T. R. Geballe, L. B. d'Hendecourt, & F. Baas.* 306, L105, 94-B11 (1986)

The Infrared Emission Bands. III. Southern *IRAS* Sources. *Martin Cohen, A. G. G. M. Tielens, Jesse Bregman, Fred C. Witteborn, David M. Rank, L. J. Allamandola, Dianne Wooden, & M. de Muizon.* 341, 246, 87-A7 (1989)

DENDY, R. O. Microwave Radiation Bursts and the Suprathermal Electron Velocity Distribution in Impulsive Phase Solar Flares. *R. O. Dendy & C. N. Lashmore-Davies.* 306, 323, 84-G10 (1986)

DENG, YAOBING. Self-consistent Solution for a Scalar Field Coupled Conformally to a Robertson-Walker Geometry. *Yaobing Deng & Philip D. Mannheim.* 324, 1, 1-A7 (1988)

DENG, ZU-GAN. The Distribution of Quasars on the Large Scale and the Super Large Scale. *You-yuan Zhou, Dong-ping Fang, Zu-gan Deng, & Xiang-tao He.* 311, 578, 154-B11 (1986)

DENNIS, B. Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

DENNIS, B. R. Spectral Evolution of Pulse Structures in Gamma-Ray Bursts. *J. P. Norris, G. H. Share, D. C. Messina, B. R. Dennis, U. D. Desai, T. L. Cline, S. M. Matz, & E. L. Chupp.* 301, 213, 16-C7 (1986)

Solar Gradual Hard X-Ray Bursts and Associated Phenomena. *E. W. Cliver, B. R. Dennis, A. L. Kiplinger, S. R. Kane, D. F. Neidig, N. R. Sheeley, Jr., & M. J. Koomen.* 305, 920, 79-A12 (1986)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

The High-Energy X-Ray Spectrum of Black Hole Candidate GX 339–4 during a Transition. *J. F. Dolan, C. J. Crannell, B. R. Dennis, & L. E. Orwig.* 322, 324, 141-D1 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806–20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

X-Ray and Radio Properties of Solar ^{3}He-rich Events. *D. V. Reames, B. R. Dennis, R. G. Stone, & R. P. Lin.* 327, 998, 59-F14 (1988)

A 2.2 Second Period in the 1984 August 3 Gamma-Ray Burst. *C. Kouveliotou, U. D. Desai, T. L. Cline, B. R. Dennis, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 330, L101, 104-G1 (1988)

Observations of A0535+26 with the *SMM* Satellite. *S. Sembay, R. A. Schwartz, S. R. Davies, L. E. Orwig, & B. R. Dennis.* 351, 675, 48-E1 (1990)

DENNIS, BRIAN R. An Elliptical Binary Orbit Model of GX 1+4. *Edwin P. Cutler, Brian R. Dennis, & Joseph F. Dolan.* 300, 551, 9-B9 (1986)

Energetic Electrons in Impulsive and Extended Solar Flares as Deduced from Flux Correlations between Hard X-Rays and Microwaves. *Takeo Kosugi, Brian R. Dennis, & Keizo Kai.* 324, 1118, 15-G1 (1988)

X-Ray Observations of Two Short but Intense Solar Flares. *Nariaki Nitta, Brian R. Dennis, & Alan L. Kiplinger.* 353, 313, 66-B5 (1990)

DENNISON, B. Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)

DENNISON, BRIAN. Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

DENT, W. A. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

DENT, WILLIAM R. F. Infrared Radiative Transfer in Dense Disks around Young Stars. *William R. F. Dent.* 325, 252, 21-G10 (1988)

DE OLIVEIRA, A. K. G. Nonadiabatic Gravitational Collapse. *A. K. G. de Oliveira & N. O. Santos.* 312, 640, 10-A1 (1987)

DE PATER, IMKE. The Brightness Distribution of OH around Comet Halley. *Imke de Pater, Patrick Palmer, & Lewis E. Snyder.* 304, L33, 61-C6 (1986)

Jupiter's Zone-Belt Structure of Radio Wavelengths. I. Observations. *Imke de Pater & John R. Dickel.* 308, 459, 113-A11 (1986)

DE PETRIS, M. A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)

DEPOY, D. L. IRAS 04238+5336: A Young Reflection Nebula Surrounding a Double Star. *C. G. Wynn-Williams, J. N. Heasley, D. L. DePoy, G. J. Hill, & E. E. Becklin.* 304, 409, 58-C12 (1986)

The 2 Micron Spectrum of NGC 6240: Evidence for More than a Starburst. *D. L. DePoy, E. E. Becklin, & C. G. Wynn-Williams.* 307, 116, 96-C10 (1986)

3 Micron Spectroscopy of Comet Halley (1982i). *A. T. Tokunaga, R. G. Smith, T. Nagata, D. L. DePoy, & K. Sellgren.* 310, L45, 138-D3 (1986)

Discovery of Broad Brackett-α Emission in Arp 220. *D. L. DePoy, E. E. Becklin, & T. R. Geballe.* 316, L63, 62-B8 (1987)

Infrared Array Imaging and Spectrophotometry of the Nuclear Region of the "Hot Spot" Galaxy NGC 2903. *D. A. Simons, D. L. DePoy, E. E. Becklin, R. W. Capps, K.-W. Hodapp, & D. N. B. Hall.* 335, 126, 171-F9 (1988)

The Nature of the Radio and Infrared Sources in S140. *Neal J. Evans II, Lee G. Mundy, Marc L. Kutner, & D. L. DePoy.* 346, 212, 168-F10 (1989)
The Luminosity Function in NGC 2023. *D. L. DePoy, E. A. Lada, Ian Gatley, & R. Probst.* 356, L55, 110-C5 (1990)
D'ERCOLE, ANNIBALE. X-Ray Evolution of Model Elliptical Galaxies. *Annibale D'Ercole, Alvio Renzini, Luca Ciotti, & Silvia Pellegrini.* 341, L9, 91-B1 (1989)
DERE, K. P. High-Resolution Telescope and Spectrograph Images of the Solar Chromosphere and Transition Zone. *K. P. Dere, J.-D. F. Bartoe, & G. E. Brueckner.* 305, 947, 79-C13 (1986)
Outflows and Ejections in the Solar Transition Zone. *K. P. Dere, J.-D. F. Bartoe, & G. E. Brueckner.* 310, 456, 137-A1 (1986)
Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)
Plasma Motions in an Emerging Flux Region. *G. E. Brueckner, J.-D. F. Bartoe, J. W. Cook, K. P. Dere, D. Socker, H. Kurokawa, & M. McCabe.* 335, 986, 183-E2 (1988)
Transition Zone Flows Observed in a Coronal Hole on the Solar Disk. *K. P. Dere, J.-D. F. Bartoe, G. E. Brueckner, & F. Recely.* 345, L95, 165-C9 (1989)
Temperature and Center-Limb Variations of Transition Region Velocities. *R. G. Athay & K. P. Dere.* 346, 514, 172-E4 (1989)
Bifurcation in the Low Chromosphere. *R. Grant Athay & K. P. Dere.* 358, 710, 132-D3 (1990)
DERE, KENNETH P. Turbulent Power and Dissipation in the Solar Transition Zone. *Kenneth P. Dere.* 340, 599, 74-F1 (1989)
DERMER, C. D. High-Energy Processes in Solar Flares. *R. J. Murphy, C. D. Dermer, & R. Ramaty.* 63, 721, 11-D13 (1987)
On the Origin of the Pion-Decay Radiation in the 1982 June 3 Solar Flare. *R. Ramaty, R. J. Murphy, & C. D. Dermer.* 316, L41, 56-D3 (1987)
DERMER, CHARLES D. Directionality of Bremsstrahlung from Relativistic Electrons in Solar Flares. *Charles D. Dermer & Reuven Ramaty.* 301, 962, 26-C5 (1986)
Binary Collision Rates of Relativistic Thermal Plasmas. II. Spectra. *Charles D. Dermer.* 307, 47, 95-D11 (1986)
On the Relationship of Flare Size and Particle Anisotropy in Solar Gamma-Ray Flares. *Charles D. Dermer.* 323, 795, 163-D10 (1987)
Interpretation of the Gamma-Ray Bump from Cygnus X-1. *Edison P. Liang & Charles D. Dermer.* 325, L39, 31-D1 (1988)
Diffuse Hard X-Ray and Gamma-Ray Emission from M87. *Charles D. Dermer & Yoel Rephaeli.* 329, 687, 84-C1 (1988)
Hot Ion Model for the X-Ray Spectra of Active Galactic Nuclei. *Charles D. Dermer.* 335, L5, 177-A10 (1988)
Electron Thermalization and Heating in Relativistic Plasmas. *Charles D. Dermer & Edison P. Liang.* 339, 512, 56-C2 (1989)
Compton Scattering in Strong Magnetic Fields and the Paucity of X-Rays in Gamma-Ray Burst Spectra. *Charles D. Dermer.* 347, L13, 189-C1 (1989)
Compton Scattering in Strong Magnetic Fields and the Continuum Spectra of Gamma-Ray Bursts: Basic Theory. *Charles D. Dermer.* 360, 197, 147-D11 (1990)
DE ROBERTIS, M. M. NGC 1320: A Feeble, High-Ionization Seyfert 2 Galaxy. *M. M. De Robertis & D. E. Osterbrock.* 301, 98, 15-A11 (1986)
An Analysis of the Narrow-Line Profiles in Seyfert 2 Galaxies. *M. M. De Robertis & D. E. Osterbrock.* 301, 727, 23-E4 (1986)
Spectroscopy and Imaging of Markarian 78 and I Zw 92. *M. M. De Robertis.* 316, 597, 58-E7 (1987)
Long-Slit Spectroscopy of Starburst Galaxies. *M. M. De Robertis & Richard A. Shaw.* 329, 62?, 83-E4 (1988)
Spatially Resolved Spectroscopy of the Gravitational Lens System 2237+030. *M. M. De Robertis & H. K. C. Yee.* 332, L49, 137-B3 (1988)
Line Profiles and the Kinematics of the Narrow-Line Region in Seyfert Galaxies. *M. M. De Robertis & Richard A. Shaw.* 348, 421, 7-G1 (1990)
DE ROBERTIS, MICHAEL M. A Statistical Study of Properties of Seyfert and Starburst Galaxies. *Oved Dahari & Michael M. De Robertis.* 67, 249, 16-A1 (1988)
Extinction, Profile Asymmetry, and Tidal Effects in Seyfert and Starburst Galaxies. *Oved Dahari & Michael M. De Robertis.* 331, 727, 116-G1 (1988)
DERRICKSON, J. H. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)
DE RUITER, H. R. B2 1637+29, a Massive Radio Galaxy Probing a Poor but Gas-rich Group. *H. R. de Ruiter, P. Parma, R. Fanti, & R. D. Ekers.* 329, 225, 77-E3 (1988)
Physical Properties of Jets in Low-Luminosity Radio Sources. *G. V. Bicknell, H. R. de Ruiter, R. Fanti, R. Morganti, & P. Parma.* 354, 98, 75-B9 (1990)
DESAI, U. Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)
A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)
Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)
DESAI, U. D. Spectral Evolution of Pulse Structures in Gamma-Ray Bursts. *J. P. Norris, G. H. Share, D. C. Messina, B. R. Dennis, U. D. Desai, T. L. Cline, S. M. Matz, & E. L. Chupp.* 301, 213, 16-C7 (1986)
Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)
A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)
SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806–20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)
A 2.2 Second Period in the 1984 August 3 Gamma-Ray Burst. *C. Kouveliotou, U. D. Desai, T. L. Cline, B. R. Dennis, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 330, L101, 104-G1 (1988)
Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)
DESAI, UPENDRA D. Short Solar Events with Evidence of Repetitive Structures. *Upendra D. Desai, Chryssa Kouveliotou, C. Barat, K. Hurley, M. Niel, R. Talon, G. Vedrenne, I. V. Estulin, & V. Ch. Dolidze.* 319, 567, 99-E1 (1987)
DESCARTES, LARA. A Subdued Interpretation of the Visual and Infrared Emission from Merging Galaxies: Application to NGC 6240. *Harley A. Thronson, Jr., S. Majewski, Lara Descartes, & Mark Hereld.* 364, 456, 201-F5 (1990)
DÉSERT, F. X. Small Grains and *IRAS* Colors. *F. Boulanger, C. Beichman, F. X. Désert, G. Helou, M. Pérault, & C. Ryter.* 332, 328, 126-F10 (1988)
Fractal Structure of Interstellar Cirrus. *D. Bazell & F. X. Désert.* 333, 353, 142-A1 (1988)

An All-Sky Search for Molecular Cirrus Clouds. *F. X. Désert, D. Bazell, & F. Boulanger.* 334, 815, 165-D4 (1988)
CO and *IRAS* Detection of an Intermediate-Velocity Cloud. *F. X. Désert, D. Bazell, & L. Blitz.* 355, L51, 98-E1 (1990)
DÉSERT, F. XAVIER. Molecular Clouds without Detectable CO. *Leo Blitz, David Bazell, & F. Xavier Désert.* 352, L13, 55-B11 (1990)
DESSANUET, VICTOR H. Tidal Stripping and Accretion in Clusters of Galaxies with Smoothly Distributed Missing Mass. *Juan C. Muzzio, Victor H. Dessanuet, & M. Marcela Vergne.* 313, 112, 16-C4 (1987)
DESTOMBES, JEAN LUC. Millimeter-Wave Laboratory Spectrum of Metastable Nitrogen Atoms, ^{14}N I ^2D_J. *Marcel Bogey, Paul B. Davies, Ian H. Davis, & Jean Luc Destombes.* 339, L49, 58-E1 (1989)
DETMAN, T. Effect of Coupled Electron-Proton Thermal Conductivities on the Two-Fluid Solutions for the Quiet Solar Wind. *S. Cuperman, T. Detman, & M. Dryer.* 330, 466, 95-E1 (1988)
DETTMAR, R.-J. Carbon Monoxide (CO) in the Magellanic Irregular Galaxy NGC 55 and the $N(H_2)/W(CO)$ Ratio in Irregular Galaxies. *R.-J. Dettmar & A. Heithausen.* 344, L61, 148-C1 (1989)
DEUPREE, ROBERT G. Mixing between the Helium Core and the Hydrogen Shell in the Core Helium Flash. *Robert G. Deupree.* 303, 649, 49-E12 (1986)
The Core Helium Flash and Surface Abundance Anomalies. *Robert G. Deupree & Richard K. Wallace.* 317, 724, 74-A4 (1987)
Stellar Evolution with Arbitrary Rotation Laws. I. Mathematical Techniques and Test Cases. *Robert G. Deupree.* 357, 175, 113-C3 (1990)
DEUTSCH, L. K. Far-Infrared Luminosities of Markarian Starburst Galaxies. *L. K. Deutsch & S. P. Willner.* 306, L11, 86-A13 (1986)
Far-Infrared Luminosities of Markarian Starburst Galaxies. II. Individual Galaxies. *L. K. Deutsch & S. P. Willner.* 63, 803, 13-E14 (1987)
DEUTSCH, LYNNE K. High-Resolution 8–13 Micron Imaging of the Planetary Nebulae BD +30°3639 and NGC 6572. *Joseph L. Hora, Lynne K. Deutsch, William F. Hoffmann, & Giovanni G. Fazio.* 353, 549, 70-F13 (1990)
DE VAUCOULEURS, A. A Spectroscopic Determination of the Velocity Dispersion in the Galactic Bulge. *K. C. Freeman, G. de Vaucouleurs, A. de Vaucouleurs, & R. J. Wainscoat.* 325, 563, 26-F4 (1988)
DE VAUCOULEURS, G. S Andromedae 1885: A Centennial Review: Erratum. *G. de Vaucouleurs & H. G. Corwin, Jr.* 302, 517, 33-G14 (1986) (Orig. paper in 295, 287, 83-C1 (1985))
Systematics of Bulge-to-Disk Ratios. *F. Simien & G. de Vaucouleurs.* 302, 564, 36-F1 (1986)
The Extragalactic Distance Scale Derived from "Sosie" Galaxies. II. Solar Motion and Hubble Constant. *G. de Vaucouleurs & W. L. Peters.* 303, 19, 41-B12 (1986)
The Hubble Ratio from Sosies of M31 in the Virgo S Cloud and in the Hercules Supercluster. *G. de Vaucouleurs & H. G. Corwin, Jr.* 308, 487, 114-C1 (1986)
A Spectroscopic Determination of the Velocity Dispersion in the Galactic Bulge. *K. C. Freeman, G. de Vaucouleurs, A. de Vaucouleurs, & R. J. Wainscoat.* 325, 563, 26-F4 (1988)
Detailed Study of the Barred Spiral Galaxy NGC 4027. II. Internal Kinematics. *W. D. Pence, K. Taylor, K. C. Freeman, G. de Vaucouleurs, & P. Atherton.* 326, 564, 39-F6 (1988)
DE VEGT, C. Envelope Structures and Optical/Radio Positions of Cool Stars. *P. F. Bowers, K. J. Johnston, & C. de Vegt.* 340, 479, 73-C1 (1989)
DEVEREUX, NICHOLAS. The Spatial Distribution of 10 Micron Luminosity in Spiral Galaxies. *Nicholas Devereux.* 323, 91, 154-B1 (1987)
DEVEREUX, NICHOLAS A. Infrared Characteristics of the Nuclei of Normal Galaxies. *Nicholas A. Devereux, E. E. Becklin, & Nick Scoville.* 312, 529, 8-F3 (1987)
A Reevaluation of the Infrared-Radio Correlation for Spiral Galaxies. *Nicholas A. Devereux & Stephen A. Eales.* 340, 708, 77-C1 (1989)
Nearby Starburst Galaxies. *Nicholas A. Devereux.* 346, 126, 167-E11 (1989)
The Origin of the Far-Infrared Luminosity from Spiral Galaxies. *Nicholas A. Devereux & Judith S. Young.* 350, L25, 37-A10 (1990)
The Gas/Dust Ratio in Spiral Galaxies. *Nicholas A. Devereux & Judith S. Young.* 359, 42, 134-E7 (1990)
DE VILLE, A. The Nonuniform Magnetohydrodynamic Nature of the Solar Corona. II. Generalization of Basic Solutions. *A. de Ville & E. R. Priest.* 340, 579, 74-D5 (1989)
The Nonuniform Magnetohydrodynamic Nature of the Solar Corona. III. Cylindrical Geometry. *A. de Ville & E. R. Priest.* 347, 1167, 198-B5 (1989)
The Nonuniform Magnetohydrodynamic Nature of the Solar Corona. IV. Effect of Magnetogravity Interactions. *A. de Ville & E. R. Priest.* 359, 560, 143-A4 (1990)
DEVORE, C. R. Nonlinear Evolution of Radiation-driven Thermally Unstable Fluids. *R. B. Dahlburg, C. R. DeVore, J. M. Picone, J. T. Mariska, & J. T. Karpen.* 315, 385, 44-B5 (1987)
DEVORE, C. RICHARD. Nonlocal Thermal Transport in Solar Flares. *Judith T. Karpen & C. Richard DeVore.* 320, 904, 119-F3 (1987)
Nonlocal Thermal Transport in Solar Flares. II. Spectroscopic Diagnostics. *Judith T. Karpen, Chung-Chieh Cheng, George A. Doschek, & C. Richard DeVore.* 338, 1184, 48-C3 (1989)
On the Formation of Current Sheets in the Solar Corona. *Judith T. Karpen, Spiro K. Antiochos, & C. Richard DeVore.* 356, L67, 110-D7 (1990)
DE VRIES, C. P. Carbon Monoxide in the Magellanic Clouds. *F. P. Israel, Th. de Graauw, H. van de Stadt, & C. P. de Vries.* 303, 186, 43-B4 (1986)
DE VRIES, HENDRIK WILLEM. Molecular and Atomic Clouds Associated with Infrared Cirrus in Ursa Major. *Hendrik Willem de Vries, Andreas Heithausen, & Patrick Thaddeus.* 319, 723, 103-A1 (1987)
DEWDNEY, P. E. The H II Region Surrounding LkHα 101 and Small-Scale Structure in the Nearby Atomic Hydrogen. *P. E. Dewdney & R. S. Roger.* 307, 275, 98-A9 (1986)
An X-Ray and Radio Study of Steep-Spectrum Radio Sources. I. Four Fields from the Clark Lake Observatory 26 MHz Survey. *D. E. Harris, P. E. Dewdney, C. H. Costain, I. McHardy, & A. G. Willis.* 325, 610, 27-C2 (1988)
The Halo and Magnetic Field of the Coma Cluster of Galaxies. *K.-T. Kim, P. P. Kronberg, P. E. Dewdney, & T. L. Landecker.* 355, 29, 87-D1 (1990)
DEWEY, R. J. Results of Two Surveys for Fast Pulsars. *G. H. Stokes, D. J. Segelstein, J. H. Taylor, & R. J. Dewey.* 311, 694, 155-D1 (1986)
Monte Carlo Simulations of Radio Pulsars and Their Progenitors. *R. J. Dewey & J. M. Cordes.* 321, 780, 133-B1 (1987)
Period Derivatives and Improved Parameters for 66 Pulsars. *R. J. Dewey, J. H. Taylor, C. M. Maguire, & G. H. Stokes.* 332, 762, 132-G1 (1988)
Improved Parameters for Four Binary Pulsars. *J. H. Taylor & R. J. Dewey.* 332, 770, 133-A1 (1988)
Timing and Scintillations of the Millisecond Pulsar 1937+214. *J. M. Cordes, A. Wolszczan, R. J. Dewey, M. Blaskiewicz, & D. R. Stinebring.* 349, 245, 17-A1 (1990)
DE YOUNG, DAVID S. Mass Entrainment in Astrophysical Jets. *David S. De Young.* 307, 62, 95-E12 (1986)
Star Formation in Radio Galaxies at Large Redshift. *David S. De Young.* 342, L59, 117-C1 (1989)
A Search for ^{6}Li in the Galactic Halo. *Catherine A. Pilachowski, L. M. Hobbs, & David S. De Young.* 345, L39, 157-D6 (1989)
Selective Loss of Metals from Low-Mass Galaxies. *David S. De Young & John S. Gallagher III.* 356, L15, 103-C7 (1990)
On the Generation of the Solar Magnetic Field in a Region of Weak Buoyancy. *Bernard R. Durney, David S. De Young, & Thierry P. Passot.* 362, 709, 179-E7 (1990)
DE ZEEUW, P. T. Nonuniqueness of Self-consistent Equilibrium Solutions for the Perfect Elliptic Disk. *P. T. de Zeeuw, C. Hunter, & M. Schwarzschild.* 317, 607, 72-F11 (1987)
Oblate Galaxy Models with Thin-Tube Orbits. *P. T. de Zeeuw & C. Hunter.* 356, 365, 104-G1 (1990)
Prolate Galaxy Models with Thin-Tube Orbits. *C. Hunter, P. T. de Zeeuw, Ch. Park, & M. Schwarzschild.* 363, 367, 188-F1 (1990)
DE ZEEUW, TIM. A Simple Dynamical Model for Stars in the Galactic Halo. *Herwig Dejonghe & Tim de Zeeuw.* 329, 720, 84-E9 (1988)

Analytic Axisymmetric Galaxy Models with Three Integrals of Motion. *Herwig Dejonghe & Tim de Zeeuw.* 333, 90, 139-A1 (1988)
Kinematics of Gas in a Triaxial Galaxy. *Tim de Zeeuw & Marijn Franx.* 343, 617, 127-A1 (1989)
Orbital Contributions to the Stability of Triaxial Galaxies. *Tim de Zeeuw & Martin Schwarzschild.* 345, 84, 150-A8 (1989)
DE ZOTTI, G. Measurements of the Cosmic Background Radiation Temperature at 6.3 Centimeters. *N. Mandolesi, P. Calzolari, S. Cortiglioni, G. Morigi, L. Danese, & G. De Zotti.* 310, 561, 140-A1 (1986)
Interpretation of Deep Counts of Radio Sources. *L. Danese, G. De Zotti, A. Franceschini, & L. Toffolatti.* 318, L15, 85-B2 (1987)
The Autocorrelation Properties of Fluctuations in the Cosmic X-Ray Background. *M. Persic, G. De Zotti, E. A. Boldt, F. E. Marshall, L. Danese, A. Franceschini, & G. G. C. Palumbo.* 336, L47, 16-E1 (1989)
Discrete Source Contributions to Small-Scale Anisotropies of the Microwave Background. *A. Franceschini, L. Toffolatti, L. Danese, & G. De Zotti.* 344, 35, 133-D8 (1989)
Contributions of Low-Luminosity Sources to the X-Ray Background. *M. Persic, G. De Zotti, L. Danese, G. G. C. Palumbo, A. Franceschini, E. A. Boldt, & F. E. Marshall.* 344, 125, 134-E10 (1989)
Constraints on Large-Scale Clustering from the Autocorrelation Properties of the X-Ray Background. *G. De Zotti, M. Persic, A. Franceschini, L. Danese, G. G. C. Palumbo, E. A. Boldt, & F. E. Marshall.* 351, 22, 38-C10 (1990)
A Catalog of X-Ray Measurements of Selected Samples of Active Galaxies and Nuclei. *R. Della Ceca, G. G. C. Palumbo, M. Persic, E. A. Boldt, G. De Zotti, & F. E. Marshall.* 72, 471, 8-G7 (1990)
DGANI, RUTH. On the Stream-Disk Interaction in Accreting Compact Objects. *Mario Livio, Noam Soker, & Ruth Dgani.* 305, 267, 69-G11 (1986)
On the Stream-Accretion Disk Interaction: Response to Increased Mass Transfer Rate. *Ruth Dgani, Mario Livio, & Noam Soker.* 336, 350, 5-E5 (1989)
Local Detonations with Application to Type I Supernovae. *Ruth Dgani & Mario Livio.* 361, 540, 164-G3 (1990)
DHAWAN, V. Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)
D'HENDECOURT, L. B. New Emission Features in the Infrared Spectra of Two IRAS Sources. *M. de Muizon, T. R. Geballe, L. B. d'Hendecourt, & F. Baas.* 306, L105, 94-B11 (1986)
DHURANDHAR, S. V. Revival of the Penrose Process for Astrophysical Applications: Erratum. *S. M. Wagh, S. V. Dhurandhar, & N. Dadhich.* 301, 1018, 26-G8 (1986) (Orig. paper in 290, 12, 23-B3 (1985))
High Efficiency of the Penrose Process of Energy Extraction from Rotating Black Holes Immersed in Electromagnetic Fields. *S. Parthasarathy, S. M. Wagh, S. V. Dhurandhar, & N. Dadhich.* 307, 38, 95-D2 (1986)
DIALETIS, D. The Observed Characteristics of Flare Energy Release. II. High-Speed Soft X-Ray Fronts. *Marcos E. Machado, Y. C. Xiao, S. T. Wu, Th. Prokakis, & D. Dialetis.* 326, 451, 37-C2 (1988)
DIAMOND, P. J. H_2O Masers in Circumstellar Envelopes. *Adair P. Lane, K. J. Johnston, P. F. Bowers, J. H. Spencer, & P. J. Diamond.* 323, 756, 163-A8 (1987)
VLBI Observations of the OH Megamaser in IC 4553 (Arp 220). *P. J. Diamond, R. P. Norris, W. A. Baan, & R. S. Booth.* 340, L49, 83-B1 (1989)
The Structure of the Interstellar Medium at the 25 AU Scale. *P. J. Diamond, W. M. Goss, J. D. Romney, R. S. Booth, P. M. W. Kalberla, & U. Mebold.* 347, 302, 185-G3 (1989)
DIAMOND, PATRICK. A Self-consistent Model of Mass and Angular Momentum Transport in Accretion Disks. *Ethan T. Vishniac & Patrick Diamond.* 347, 435, 187-D11 (1989)
Dynamo Action by Internal Waves in Accretion Disks. *Ethan T. Vishniac, Liping Jin, & Patrick Diamond.* 365, 648, 216-C8 (1990)
DIAS DA COSTA, ROBERTO DELL'AGIO. A Spectroscopic Study of Nova Centauri 1986. *J. A. de Freitas Pacheco, Roberto Dell'Agio Dias da Costa, & S. J. Codina.* 347, 483, 188-A7 (1989)
DIAZ, M. P. The Photometric Period of Nova Muscae 1983. *M. P. Diaz & J. E. Steiner.* 339, L41, 58-D9 (1989)
DÍAZ, MARIO. Finite Perturbations on Perfect Fluid Friedmann-Robertson-Walker Models. *Mario Díaz, Reinaldo Gleiser, & Jorge A. Pullin.* 339, 1, 50-A9 (1989)
DIAZ ALONSO, J. Field Theoretical Model for Nuclear and Neutron Matter. IV. Radial Oscillations of Warm Cores in Neutron Stars. *José M^a. Martí, Juan A. Miralles, J. Diaz Alonso, & José M^a. Ibáñez.* 329, 780, 85-E1 (1988)
DI BENEDETTO, G. P. Evidence from Michelson Interferometry for Small-Scale Structure in the Source Geometry of the M0 Giant β Andromedae. *G. P. Di Benedetto & D. Bonneau.* 358, 617, 131-B11 (1990)
DICKE, R. H. The Variable Oblateness of the Sun: Measurements of 1984. *R. H. Dicke, J. R. Kuhn, & K. G. Libbrecht.* 311, 1025, 159-B1 (1986)
Is the Solar Oblateness Variable? Measurements of 1985. *R. H. Dicke, J. R. Kuhn, & K. G. Libbrecht.* 318, 451, 83-G9 (1987)
Observations of a Solar Latitude-dependent Limb Brightness Variation: Erratum. *J. R. Kuhn, K. G. Libbrecht, & R. H. Dicke.* 319, 1010, 106-A8 (1987) (Orig. paper in 290, 758, 32-C8 (1985))
DICKEL, HÉLÈNE R. VLA Observations of the 6 Centimeter and 2 Centimeter Lines of H_2CO in the Direction of W49. *Hélène R. Dickel & W. Miller Goss.* 351, 189, 40-D2 (1990)
DICKEL, J. R. A Comparison of High-Resolution Radio and Optical Data for the Northeast Region of the Cygnus Loop. *W. C. Straka, J. R. Dickel, W. P. Blair, & R. A. Fesen.* 306, 266, 84-C2 (1986)
DICKEL, JOHN R. Jupiter's Zone-Belt Structure of Radio Wavelengths. I. Observations. *Imke de Pater & John R. Dickel.* 308, 459, 113-A11 (1986)
Resolution of Compact Knots in Cassiopeia A. *Richard G. Arendt & John R. Dickel.* 315, 567, 46-G8 (1987)
The Evolution of the Radio Emission from Kepler's Supernova Remnant. *John R. Dickel, Robert Sault, Richard G. Arendt, Yutaka Matsui, & Kirk T. Korista.* 330, 254, 92-G9 (1988)
Radio Emission from Young Supernova Remnants: Effects of an Inhomogeneous Circumstellar Medium. *John R. Dickel, Jean A. Eilek, Eric M. Jones, & Stephen P. Reynolds.* 70, 497, 25-F5 (1989)
Comparative Morphological Analysis of Puppis A at Radio, Infrared, Optical, and X-Ray Wavelengths. *Richard G. Arendt, Eli Dwek, Robert Petre, John R. Dickel, Robert S. Roger, Douglas K. Milne, & Michael J. Kesteven.* 350, 266, 28-C6 (1990)
DICKENS, R. J. Overtone Pulsation in Stars. *R. F. Stellingwerf, A. Gautschy, & R. J. Dickens.* 313, L75, 27-D2 (1987)
Fourier Coefficients of the RR Lyrae Variables in NGC 6171. *R. F. Stellingwerf & R. J. Dickens.* 322, 133, 139-D2 (1987)
Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)
An Analysis of G-Band Strengths in NGC 6397 and M55 Red Giants. *Michael M. Briley, R. A. Bell, Susan Hoban, & R. J. Dickens.* 359, 307, 139-G10 (1990)
DICKEY, J. M. 1.4 GHz Continuum Sources in the Cancer Cluster. *E. E. Salpeter & J. M. Dickey.* 317, 102, 65-B1 (1987)
DICKEY, JOHN M. A Survey of Neutral Hydrogen Absorption in the Nuclei of Active Spiral Galaxies. *John M. Dickey.* 300, 190, 3-B2 (1986)
Arecibo Observations of IRAS Galaxies at 21 and 18 Centimeter Wavelengths. *Robert W. Garwood, George Helou, & John M. Dickey.* 322, 88, 138-G11 (1987)
Compact Radio Sources in the Galactic Plane. *Terry Jay Jones, Robert Garwood, & John M. Dickey.* 328, 559, 69-C5 (1988)
Cold Atomic Gas in the Inner Galaxy. *Robert W. Garwood & John M. Dickey.* 338, 841, 41-C10 (1989)
The Mass Spectrum of Interstellar Clouds. *John M. Dickey & Robert W. Garwood.* 341, 201, 86-D6 (1989)

NGC 1058: Gas Motions in an Extended, Quiescent Spiral Disk. *John M. Dickey, Margaret Murray Hanson, & George Helou.* 352, 522, 57-E5 (1990)

DICKINSON, DALE F. Pumping the Stellar Hydroxyl Maser. *Dale F. Dickinson.* 313, 408, 19-D13 (1987)

High-Excitation SiO Masers in Evolved Stars. *P. R. Jewell, Dale F. Dickinson, L. E. Snyder, & D. P. Clemens.* 323, 749, 163-A1 (1987)

Masers Associated with Two Carbon Stars: V778 Cygni and EU Andromedae. *Irene R. Little-Marenin, Priscilla J. Benson, & Dale F. Dickinson.* 330, 828, 101-F1 (1988)

DICKINSON, MARK. The Sponge-like Topology of Large-Scale Structure in the Universe. *J. Richard Gott III, Adrian L. Melott, & Mark Dickinson.* 306, 341, 88-C1 (1986)

Serendipitous Discovery of a Redshift 4.4 QSO. *Patrick J. McCarthy, Mark Dickinson, Alexei V. Filippenko, Hyron Spinrad, & Wil J. M. van Breugel.* 328, L29, 74-C9 (1988)

Extended Lyα Emission Associated with 3C 294. *Patrick J. McCarthy, Hyron Spinrad, Wil van Breugel, James Liebert, Mark Dickinson, S. Djorgovski, & Peter Eisenhardt.* 365, 487, 214-B9 (1990)

DICKMAN, R. L. *IRAS* Sources Associated with Shocked Gas Regions in IC 443. *Y.-L. Huang, R. L. Dickman, & Ronald L. Snell.* 302, L63, 40-E12 (1986)

Carbon Monoxide as an Extragalactic Mass Tracer. *R. L. Dickman, Ronald L. Snell, & F. Peter Schloerb.* 309, 326, 123-D13 (1986)

The Lynds 204 Complex: Magnetic Field Controlled Evolution? *W. H. McCutcheon, F. J. Vrba, R. L. Dickman, & D. P. Clemens.* 309, 619, 128-A11 (1986)

Small-Scale Structure of the Taurus Molecular Clouds: Turbulence in Heiles' Cloud 2. *S. C. Kleiner & R. L. Dickman.* 312, 837, 12-B2 (1987)

Molecular Clouds and the Gould Belt. *David K. Taylor, R. L. Dickman, & N. Z. Scoville.* 315, 104, 41-B5 (1987)

VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)

Velocity Waves in 21 Centimeter Self-Absorption toward the Taurus Molecular Complex. *W. L. H. Shuter, R. L. Dickman, & C. Klatt.* 322, L103, 152-D8 (1987)

Linear Polarization of Millimeter-Wave Emission Lines in Clouds without Large Velocity Gradients. *D. C. Lis, P. F. Goldsmith, R. L. Dickman, C. R. Predmore, A. Omont, & J. Cernicharo.* 328, 304, 65-C7 (1988)

Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)

A Reassessment of the Double Isotope Ratio [^{13}CO]/[C^{18}O] in Molecular Clouds. *David K. Taylor & R. L. Dickman.* 341, 293, 87-E2 (1989)

Shock Chemistry in the Molecular Clouds Associated with SNR IC 443. *L. M. Ziurys, Ronald L. Snell, & R. L. Dickman.* 341, 857, 95-G1 (1989)

Far-Infrared Emission in the ρ Ophiuchi Region: A Comparison with Molecular Gas Emission and Visual Extinction. *T. H. Jarrett, R. L. Dickman, & W. Herbst.* 345, 881, 161-E1 (1989)

DICKMAN, ROBERT L. Molecular Outflows Associated with Bright Far-Infrared Sources. *Ronald L. Snell, Y.-L. Huang, Robert L. Dickman, & M. J. Claussen.* 325, 853, 29-G11 (1988)

Molecular Outflows Associated with a Flux-limited Sample of Bright Far-Infrared Sources. *Ronald L. Snell, Robert L. Dickman, & Y.-L. Huang.* 352, 139, 51-F9 (1990)

Analysis of ^{12}CO and ^{13}CO Emission in a 3 Square Degree Region of the Galactic Plane between l = 23° and 25°. *Youngung Lee, Ronald L. Snell, & Robert L. Dickman.* 355, 536, 95-B4 (1990)

The ^{13}CO–A_V Relation at High Extinctions: The ρ Ophiuchi Complex. *Robert L. Dickman & William Herbst.* 357, 531, 119-B11 (1990)

A Search for Scale-dependent Morphology in Five Molecular Cloud Complexes. *Robert L. Dickman, Mark A. Horvath, & Michael Margulis.* 365, 586, 215-E1 (1990)

DI COCCO, G. Hard X-Ray Observations of Cygnus X-1 with the MISO Telescope. *F. Perotti, A. Della Ventura, G. Villa, L. Bassani, R. C. Butler, G. Di Cocco, R. E. Baker, A. J. Dean, & C. G. Hanson.* 300, 297, 4-C12 (1986)

A Broad-Band Contemporaneous Study of the Seyfert Galaxy NGC 4151. *L. Bassani, R. C. Butler, G. Di Cocco, A. Della Ventura, F. Perotti, G. Villa, R. E. Baker, A. J. Dean, & T. J. Lee.* 311, 623, 154-F1 (1986)

Gamma-Ray Observations of Cygnus X-1. *L. Bassani, A. J. Dean, G. Di Cocco, F. Perotti, & J. B. Stephen.* 343, 313, 122-A10 (1989)

DICUS, DUANE A. Bounds on Dark Matter in Solar Orbit. *John D. Anderson, Eunice L. Lau, Anthony H. Taylor, Duane A. Dicus, Doris C. Teplitz, & Vigdor L. Teplitz.* 342, 539, 107-C13 (1989)

DIEHL, R. Centaurus A Observation at MeV–Gamma-Ray Energies. *P. von Ballmoos, R. Diehl, & V. Schönfelder.* 312, 134, 2-D11 (1987)

Map of the Galactic Center Region in the 1.8 MeV ^{26}Al Gamma-Ray Line. *P. von Ballmoos, R. Diehl, & V. Schönfelder.* 318, 654, 88-B1 (1987)

Search for Gamma-Ray Continuum Emission at MeV Energies from the Galactic Center Region. *V. Schönfelder, P. von Ballmoos, & R. Diehl.* 335, 748, 180-G5 (1988)

DIERCKSEN, G. H. F. Graphite DI Layers and the Interstellar Polycyclic Aromatic Hydrocarbon Hypothesis. *S. B. Trickey, G. H. F. Diercksen, & F. Müller-Plathe.* 336, L37, 8-E9 (1989)

DIETZ, R. D. Near-Infrared Light and the Morphology of Arp 220. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, & R. D. Dietz.* 329, 107, 76-B3 (1988)

Starlight Morphology of the Interacting Galaxy NGC 5195. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, R. D. Dietz, & Scott D. Friedman.* 362, 455, 176-B10 (1990)

DIGEL, SETH. Giant Molecular Clouds in the Outer Arm of the Galaxy. *Seth Digel, John Bally, & Patrick Thaddeus.* 357, L29, 121-C1 (1990)

DIKIJ, V. N. Structure of a Solar Active Region from RATAN 600 and Very Large Array Observations. *Sh. B. Akhmedow, V. N. Borovik, G. B. Gelfreikh, V. M. Bogod, A. N. Korzhavin, Z. E. Petrov, V. N. Dikij, Kenneth R. Lang, & Robert F. Willson.* 301, 460, 18-G9 (1986)

DIMOPOULOS, SAVAS. Is the Universe Closed by Baryons? Nucleosynthesis with a Late-decaying Massive Particle. *Savas Dimopoulos, Rahim Esmailzadeh, Lawrence J. Hall, & Glenn D. Starkman.* 330, 545, 98-E1 (1988)

DINARDO, S. J. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

DINERSTEIN, H. L. Type Ib Supernovae 1983n and 1985f: Oxygen-rich Late Time Spectra. *C. M. Gaskell, E. Cappellaro, H. L. Dinerstein, D. R. Garnett, R. P. Harkness, & J. C. Wheeler.* 306, L77, 93-G11 (1986)

Physical Processes and Infrared Emission from the Cassiopeia A Supernova Remnant. *E. Dwek, H. L. Dinerstein, F. C. Gillett, M. G. Hauser, & W. L. Rice.* 315, 571, 47-A1 (1987)

The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes,*

R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault. 317, 355, 67-F14 (1987)

Far-Infrared Measurements of N/O in H II Regions: Evidence for Enhanced CN Process Nucleosynthesis in the Inner Galaxy. *D. F. Lester, H. L. Dinerstein, M. W. Werner, D. M. Watson, R. Genzel, & J. W. V. Storey.* 320, 573, 116-A1 (1987)

DINERSTEIN, HARRIET L. Reassessing the Primordial Helium Abundance: New Observations of NGC 4861 and CG 1116+51. *Harriet L. Dinerstein & Gregory A. Shields.* 311, 45, 146-D14 (1986)

Observations of Infrared Emission from a Fast-moving Knot in Cassiopeia A. *Harriet L. Dinerstein, Daniel F. Lester, David M. Rank, Michael W. Werner, & Diane H. Wooden.* 312, 314, 4-C11 (1987)

Detection of Fluorescent Molecular Hydrogen Emission in the Planetary Nebula Hubble 12. *Harriet L. Dinerstein, Daniel F. Lester, John S. Carr, & Paul M. Harvey.* 327, L27, 53-C5 (1988)

Scattering of Sodium D Photons by Neutral Gas in the Planetary Nebula BD +30°3639. *Harriet L. Dinerstein & Christopher Sneden.* 335, L23, 177-C1 (1988)

DINSHAW, N. A Possible Meaning of the Spectrum of HD 191765, WN6. *A. B. Underhill, K. K. Gilroy, G. M. Hill, & N. Dinshaw.* 351, 666, 48-D3 (1990)

DIPLAS, ATHANASSIOS. The Distribution of Interstellar Al III Away from the Galactic Plane. *Blair D. Savage, Richard J. Edgar, & Athanassios Diplas.* 361, 107, 158-D1 (1990)

DIPPER, N. A. SN 1987A: Limits to 400 GeV Gamma-Ray Emission. *P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, S. M. Rayner, K. J. Orford, K. E. Turver, & D. G. Williams.* 333, L19, 144-B11 (1988)

300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)

Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)

New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989))

Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)

DI PRISCO, A. Conformally Symmetric Spheres in the Thin Wall Approximation. *L. Herrera, J. Ibáñez, & A. Di Prisco.* 353, 579, 71-B4 (1990)

DISANTI, MICHAEL A. The Production Rate and Spatial Distribution of H_2O for Comet P/Halley. *Uwe Fink & Michael A. DiSanti.* 364, 687, 204-F4 (1990)

DI SEREGO ALIGHIERI, S. The Quasar Pair Tololo 1037–27 and 1038–27: Evidence for Correlated Absorption Megaparsec Scales. *P. Jakobsen, M. A. C. Perryman, M. H. Ulrich, F. Macchetto, & S. di Serego Alighieri.* 303, L27, 53-B6 (1986)

High-Resolution Imaging of the Double QSO 2345+007: Evidence for Subcomponents. *J.-L. Nieto, S. Roques, A. Llebaria, Ch. Vanderriest, G. Lelièvre, S. di Serego Alighieri, F. D. Macchetto, & M. A. C. Perryman.* 325, 644, 27-E8 (1988)

Near-Ultraviolet Emission from 3C 66B and Its Jet. *D. Fraix-Burnet, J.-L. Nieto, G. Lelièvre, F. D. Macchetto, M. A. C. Perryman, & S. di Serego Alighieri.* 336, 121, 2-E1 (1989)

The Structure and Ionization of the Extended Emission-Line Filaments Surrounding the QSO MR 2251–178. *F. Macchetto, L. Colina, D. Golombek, M. A. C. Perryman, & S. di Serego Alighieri.* 356, 389, 105-A13 (1990)

DITTMAR, MELISSA R. The Discovery of a Population of Compact Radio Sources in the Spiral Galaxy NGC 4736. *Nebojsa Duric & Melissa R. Dittmar.* 332, L67, 137-C9 (1988)

DIXON, R. I. Subarcsecond Resolution Observations of the Central Parsec of the Galaxy at 2.2 Microns. *M. Simon, W.-P. Chen, W. J. Forrest, J. D. Garnett, A. J. Longmore, T. Gauer, & R. I. Dixon.* 360, 95, 146-C1 (1990)

DIXON, W. W. Episodic Coronal Heating. *P. A. Sturrock, W. W. Dixon, J. A. Klimchuk, & S. K. Antiochos.* 356, L31, 103-D11 (1990)

DJORGOVSKI, S. A Preliminary Survey of Collapsed Cores in Globular Clusters. *S. Djorgovski & Ivan R. King.* 305, L61, 80-C13 (1986)

Self-regulated Cooling Flows in Elliptical Galaxies and in Cluster Cores: Is Excusively Low Mass Star Formation Really Necessary? *Joseph Silk, S. Djorgovski, Rosemary F. G. Wyse, & Gustavo Bruzual A.* 307, 415, 101-C1 (1986)

Fundamental Properties of Elliptical Galaxies. *S. Djorgovski & Marc Davis.* 313, 59, 15-E14 (1987)

Discovery of Three Obscured Globular Clusters. *S. Djorgovski.* 317, L13, 71-B2 (1987)

Extended Lyman-α Emission in 3C 326.1: A 100 Kiloparsec Cloud of Ionized Gas at a Redshift of 1.82. *Patrick J. McCarthy, Hyron Spinrad, S. Djorgovski, Michael A. Strauss, Wil van Breugel, & James Liebert.* 319, L39, 107-B2 (1987)

Discovery of a Probable Binary Quasar. *S. Djorgovski, R. Perley, G. Meylan, & P. McCarthy.* 321, L17, 129-C6 (1987)

A Correlation between the Radio and Optical Morphologies of Distant 3 CR Radio Galaxies. *Patrick J. McCarthy, Wil van Breugel, Hyron Spinrad, & S. Djorgovski.* 321, L29, 129-D3 (1987)

A Preliminary Survey of Collapsed Cores in the Magellanic Clouds' Globular Clusters. *G. Meylan & S. Djorgovski.* 322, L91, 152-C10 (1987)

Photometry and the Light Curve of the Optical Counterpart of the Eclipsing Millisecond Pulsar 1957+20. *S. Djorgovski & Charles R. Evans.* 335, L61, 185-C6 (1988)

UM 425: A New Gravitational Lens Candidate. *G. Meylan & S. Djorgovski.* 338, L1, 40-B6 (1989)

An Analysis of the Distribution of Globular Clusters with Postcollapse Cores in the Galaxy. *David F. Chernoff & S. Djorgovski.* 339, 904, 63-A1 (1989)

The Warp of the Galactic Stellar Disk Detected in *IRAS* Source Counts. *S. Djorgovski & Craig Sosin.* 341, L13, 91-B5 (1989)

A New Family of Distance Indicator Relations for Elliptical Galaxies. *R. R. de Carvalho & S. Djorgovski.* 341, L37, 99-E5 (1989)

The Deep Luminosity Function of the Globular Cluster M30. *Giampaolo Piotto, Ivan R. King, Massimo Capaccioli, Sergio Ortolani, & S. Djorgovski.* 350, 662, 34-C14 (1990)

The Cosmic Submillimeter Background as a Possible Signature of the Initial Burst of Galaxy Formation. *S. Djorgovski & Nicholas Weir.* 351, 343, 44-C1 (1990)

Extended Lyα Emission Associated with 3C 294. *Patrick J. McCarthy, Hyron Spinrad, Wil van Breugel, James Liebert, Mark Dickinson, S. Djorgovski, & Peter Eisenhardt.* 365, 487, 214-B9 (1990)

DOANE, JAY S. Can Quasar Clouds Form in Thermal Instabilities? *William G. Mathews & Jay S. Doane.* 352, 423, 56-D1 (1990)

DOBSON, ANDREA K. The Magnetic, Basal, and Radiative Equilibrium Components in Mount Wilson Ca II H+K Fluxes. *C. J. Schrijver, Andrea K. Dobson, & Richard R. Radick.* 341, 1035, 98-A2 (1989)

Coronal Activity–Rotation Relations for Lower-Main-Sequence Stars. *Andrea K. Dobson & Richard R. Radick.* 344, 907, 145-D5 (1989)

DOBYNS, YORK H. Gravitational Accretion of Hot Dark Matter. *York H. Dobyns.* 329, L5, 81-A8 (1988)

DOCOBO, J. A. First Orbits for the Visual Double Stars ADS 328, ADS 9043, and ADS 13048. *J. A. Docobo & J. M. Costa.* 60, 945, 14-G12 (1986)

DODERO, M. A. Simulations of the Ca XIX Spectral Emission from a Flaring Solar Cronal Loop. I. Thermal Case. *E. Antonucci, M. A. Dodero, G. Peres, S. Serio, & R. Rosner.* 322, 522, 143-F1 (1987)

High-Velocity Evaporation during the Impulsive Phase of the 1984 April 24 Flare. *E. Antonucci, M. A. Dodero, & R. Martin.* 73, 137, 19-D11 (1990)

Velocity-Temperature Distribution in the Evaporating Plasma during the Impulsive Phase of Solar Flares. *E. Antonucci, M. A. Dodero, & R. Martin.* 73, 147, 19-E11 (1990)

Velocity-Temperature Distribution in the Evaporating Plasma during the Impulsive Phase of Solar Flares: Erratum. *E. Antonucci, M. A. Dodero, & R. Martin.* 74, 830, 42-B3 (1990) (Orig. paper in 73, 147, 19-E11 (1990))

DODOPOULOS, C. Shock Drift Mechanism for Forbush Decreases. *Andrew F. Cheng, E. T. Sarris, & C. Dodopoulos.* 350, 413, 30-B1 (1990)

D'ODORICO, S. Na I Interstellar Absorption in the Direction of Two LMC Supergiants in the Field of SN 1987A. *P. Molaro, G. Vladilo, G. Avila, & S. D'Odorico.* 339, L63, 66-C7 (1989)

D'ODORICO, SANDRO. A Search for Million Degree Gas in the Galactic Halo and the Large Magellanic Cloud through [Fe X] λ6375 Absorption. *Max Pettini & Sandro D'Odorico.* 310, 700, 141-E12 (1986)

Million Degree Gas in the Galactic Halo and the Large Magellanic Cloud. II. The Line of Sight to SN 1987A. *Max Pettini, Raylee Stathakis, Sandro D'Odorico, Paolo Molaro, & Giovanni Vladilo.* 340, 256, 70-C1 (1989)

Observations of the Nebulosities near SN 1987A. *E. Joseph Wampler, Lifan Wang, Dietrich Baade, Klaus Banse, Sandro D'Odorico, Christian Gouiffes, & Massimo Tarenghi.* 362, L13, 174-B9 (1990)

Double Degenerates among DA White Dwarfs. *Angela Bragaglia, Laura Greggio, Alvio Renzini, & Sandro D'Odorico.* 365, L13, 212-B7 (1990)

DOHERTY, L. R. On the Polarization of Alpha Orionis. *L. R. Doherty.* 307, 261, 97-G9 (1986)

Ultraviolet Spectroscopy of R Coronae Borealis. *A. V. Holm & L. R. Doherty.* 328, 726, 71-A10 (1988)

DOI, M. Nuclear Concentration of Molecular Gas in the Late-Type Spiral Galaxy NGC 6946: 300 Parsec Scale Gaseous Disk. *S. Ishizuki, R. Kawabe, M. Ishiguro, S. K. Okumura, K.-I. Morita, Y. Chikada, T. Kasuga, & M. Doi.* 355, 436, 93-G3 (1990)

DOINIDIS, STEVE P. Evidence for Clustering of Field Horizontal-Branch Stars in the Galactic Halo. *Steve P. Doinidis & Timothy C. Beers.* 340, L57, 83-B10 (1989)

DOKUCHAEV, V. I. High-Energy Gamma Radiation from Black Holes with Slow Friction Accretion. *V. S. Berezinsky & V. I. Dokuchaev.* 361, 492, 164-C1 (1990)

DOLAN, J. F. The High-Energy X-Ray Spectrum of Black Hole Candidate GX 339–4 during a Transition. *J. F. Dolan, C. J. Crannell, B. R. Dennis, & L. E. Orwig.* 322, 324, 141-D1 (1987)

DOLAN, JOSEPH F. An Elliptical Binary Orbit Model of GX 1+4. *Edwin P. Cutler, Brian R. Dennis, & Joseph F. Dolan.* 300, 551, 9-B9 (1986)

The Orbital Inclination of Cygnus XR-1 Measured Polarimetrically. *Joseph F. Dolan & Santiago Tapia.* 344, 830, 144-E7 (1989)

DOLEZ, N. An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather, D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine.* 357, 204, 113-E7 (1990)

DOLIDZE, V. CH. Short Solar Events with Evidence of Repetitive Structures. *Upendra D. Desai, Chryssa Kouveliotou, C. Barat, K. Hurley, M. Niel, R. Talon, G. Vedrenne, I. V. Estulin, & V. Ch. Dolidze.* 319, 567, 99-E1 (1987)

DOMINGO, V. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

DOMÍNGUEZ-TENREIRO, R. Light-Element Yields with Cosmological Decaying Gravitinos. *R. Domínguez-Tenreiro.* 313, 523, 22-E1 (1987)

Antimatter and Light Element Yields: Could Dark Matter be Baryonic? *R. Domínguez-Tenreiro & G. Yepes.* 317, L1, 71-A4 (1987)

Field Effects on the Luminosity Segregation Analysis of Distant Clusters of Galaxies. *R. Domínguez-Tenreiro & R. del Pozo-Sanz.* 324, 677, 10-F11 (1988)

The Effects of Antimatter on Primordial Nucleosynthesis. *G. Yepes & R. Domínguez-Tenreiro.* 335, 3, 170-B1 (1988)

DOMÍNGUEZ-TENREIRO, ROSA. Multidimensional Analysis of the Large-Scale Segregation of Luminosity. *Rosa Domínguez-Tenreiro & Vicent J. Martínez.* 339, L9, 58-B1 (1989)

Clustering Paradigms and Multifractal Measures. *Vicent J. Martínez, Bernard J. T. Jones, Rosa Domínguez-Tenreiro, & Rien van de Weygaert.* 357, 50, 111-F3 (1990)

DOMINY, JAMES F. Abundances of Carbon, Nitrogen, and Oxygen and Their Isotopes in the Atmospheres of Four SC Stars. *James F. Dominy, George Wallerstein, & Nicholas B. Suntzeff.* 300, 325, 4-E12 (1986)

Quantitative Technetium Abundances in the Long-Period Variables ψ Cygni and o Ceti. *James F. Dominy & George Wallerstein.* 310, 371, 136-A12 (1986)

Carbon ($^{12}C/^{13}C$) and Oxygen ($^{16}O/^{17}O$) Isotopic Ratios in Seven Evolved Stars. *James F. Dominy & George Wallerstein.* 317, 810, 74-G11 (1987)

Radial Velocities of Stars with Microwave Maser Emission. III. Semiregular Variables. *George Wallerstein & James F. Dominy.* 326, 292, 35-D2 (1988)

Technetium and Niobium Abundances in Four Stars of Types MS and S. *George Wallerstein & James F. Dominy.* 330, 937, 102-G1 (1988)

DOMKE, H. Scattering of Polarized Light in Spectral Lines with Partial Frequency Redistribution: General Redistribution Matrix. *H. Domke & I. Hubeny.* 334, 527, 160-F6 (1988)

DONAHUE, MEGAN. Can Quasars Ionize the Intergalactic Medium? *Megan Donahue & J. Michael Shull.* 323, L13, 158-B1 (1987)

Self-irradiated Cooling Condensations: The Source of the Optical Line Emission from Cooling Flows. *G. Mark Voit & Megan Donahue.* 360, L15, 149-C7 (1990)

DONAHUE, MEGAN E. X-Ray Studies of Galactic and Intergalactic Gas in the Pegasus I Cluster. *Claude R. Canizares, Megan E. Donahue, Ginevra Trinchieri, Gordon C. Stewart, & Thomas A. McGlynn.* 304, 312, 57-C13 (1986)

DONE, C. X-Ray Observations of *IRAS* Selected Seyfert Galaxies and Obscuration of the Broad-Line Region. *M. J. Ward, C. Done, A. C. Fabian, A. F. Tennant, & R. A. Shafer.* 324, 767, 11-F12 (1988)

The Enhancement of Infrared Emission in Interacting Galaxies. *C. M. Telesco, R. D. Wolstencroft, & C. Done.* 329, 174, 76-G11 (1988)

DONE, CHRIS. Electron-Positron Pairs, Compton Reflection, and the X-Ray Spectra of Active Galactic Nuclei. *Andrzej A. Zdziarski, Gabriele Ghisellini, Ian M. George, Roland Svensson, A. C. Fabian, & Chris Done.* 363, L1, 187-A5 (1990)

DONN, B. Aerodynamic Properties of Fractal Grains: Implications for the Primordial Solar Nebula. *P. Meakin & B. Donn.* 329, L39, 81-D2 (1988)

DONN, BERTRAM. Refractory Grain Processing in Circumstellar Shells: Diagnostic Infrared Signatures. *Joseph A. Nuth III, Bertram Donn, & Robert Nelson.* 310, L83, 145-B9 (1986)

Laboratory Experiments on Carbonaceous Material as a Source for the Red Rectangle Visual Emissions. *Thomas J. Wdowiak, Bertram Donn, Joseph A. Nuth, Emmett Chappelle, & Marla Moore.* 336, 838, 12-G8 (1989)

DONNELLY, R. HANK. 6 Centimeter Radio Source Counts and Spectral Index Studies Down to 0.1 Millijansky. *R. Hank Donnelly, R. Bruce Partridge, & Rogier A. Windhorst.* 321, 94, 123-B9 (1987)

The Correlation of X-Ray and Optical Luminosities of Early-Type Galaxies Using New Data and Distances. *R. Hank Donnelly, S. M. Faber, & R. M. O'Connell.* 354, 52, 74-F1 (1990)

DONNER, KARL JOHAN. A Computer-generated Galaxy Model with Long-lived Two-armed Spiral Structure. *Magnus Thomasson, Bruce G. Elmegreen, Karl Johan Donner, & Björn Sundelius.* 356, L9, 103-C1 (1990)

D'ONOFRIO, MAURO. Distances of the Virgo and Coma Clusters of Galaxies through Novae and Supernovae. *Massimo Capaccioli, Enrico Cappellaro, Massimo Della Valle, Mauro D'Onofrio, Leonida Rosino, & Massimo Turatto.* 350, 110, 26-D1 (1990)

Distance of the Large Magellanic Cloud through the Maximum Magnitude versus Rate of Decline Relation for Novae. *Massimo Capaccioli, Massimo Della Valle, Mauro D'Onofrio, & Leonida Rosino.* 360, 63, 145-G4 (1990)

DONOHOE, M. Fourier Coefficients of Variable Stars. *R. F. Stellingwerf & M. Donohoe.* 306, 183, 83-C7 (1986)

Fourier Coefficients of Variable Stars. II. Light-Curve Analysis. *R. F. Stellingwerf & M. Donohoe.* 314, 252, 30-G8 (1987)

DOOM, C. Stellar Evolution in the Upper Hertzsprung-Russell Diagram. *C. Doom, J. P. De Grève, & C. de Loore.* 303, 136, 42-D13 (1986)

Nucleosynthesis and Evolution of Massive Stars with Mass Loss and Overshooting. *N. Prantzos, C. Doom, M. Arnould, & C. de Loore.* 304, 695, 63-E12 (1986)

Revisiting the Standard Solar Model. *S. Turck-Chièze, S. Cahen, M. Cassé, & C. Doom.* 335, 415, 175-C1 (1988)

DOPITA, M. A. Theoretical Models for H II Regions. II. The Extragalactic H II Region Abundance Sequence. *M. A. Dopita & I. N. Evans.* 307, 431, 101-D3 (1986)

High-Excitation Extranuclear Gas in the Seyfert Galaxy NGC 1068. *I. N. Evans & M. A. Dopita.* 310, L15, 138-B4 (1986)

Angular Diameters of Magellanic Cloud Planetary Nebulae. I. Speckle Interferometry. *P. R. Wood, M. S. Bessell, & M. A. Dopita.* 311, 632, 154-F10 (1986)

H II Region Abundances in Seyfert Galaxies. *I. N. Evans & M. A. Dopita.* 319, 662, 102-B12 (1987)

Angular Diameters and Fluxes of Magellanic Cloud Planetary Nebulae. II. High-Speed Direct Imaging. *P. R. Wood, S. J. Meatheringham, M. A. Dopita, & D. H. Morgan.* 320, 178, 110-A11 (1987)

The Ionization Effects of Shock Breakout in SN 1987A. *M. A. Dopita, S. J. Meatheringham, P. Nulsen, & P. R. Wood.* 322, L85, 152-C5 (1987)

Speckle Interferometry of SN 1987A up to One Year after Explosion. *P. R. Wood, P. E. J. Nulsen, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 339, 1073, 65-A1 (1989)

The Extraordinary Mass-Loss Bubble G2.4+1.4 and Its Central Star. *M. A. Dopita, T. A. Lozinskaya, P. J. McGregor, & S. J. Rawlings.* 351, 563, 47-B1 (1990)

The Evolutionary Sequence of Planetary Nebulae. *M. A. Dopita & S. J. Meatheringham.* 357, 140, 112-G3 (1990)

Speckle Interferometry of SN 1987A: Final Measurements. *P. E. J. Nulsen, P. R. Wood, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 358, 266, 125-D6 (1990)

The Dynamics of the Extraordinary Mass-Loss Bubble G2.4+1.4. *M. A. Dopita & T. A. Lozinskaya.* 359, 419, 141-C1 (1990)

High-Resolution Imaging and the H-R Diagram of Galactic Bulge Planetary Nebulae. *M. A. Dopita, J. P. Henry, I. R. Tuohy, B. L. Webster, E. H. Roberts, Y.-I. Byun, L. L. Cowie, & A. Songaila.* 365, 640, 216-B10 (1990)

DOPITA, MICHAEL. On the Origin of Some QSO Absorption Lines. *Donald G. York, Michael Dopita, Richard Green, & Jill Bechtold.* 311, 610, 154-E2 (1986)

DOPITA, MICHAEL A. The Exciting Star of HH 57. *Martin Cohen, Michael A. Dopita, & Richard Schwartz.* 302, L55, 40-E4 (1986)

The Potential for Supernova-induced Chemical Enrichment of Protoglobular Cluster Clouds. *Michael A. Dopita & Graeme H. Smith.* 304, 283, 57-A12 (1986)

Optical Spectroscopy of HH-exciting Stars from Scattered Light Continua. *Martin Cohen, Michael A. Dopita, & Richard D. Schwartz.* 307, L21, 100-B8 (1986)

New Evolutionary Relationships for Magellanic Cloud Planetary Nebulae. *Michael A. Dopita, Stepher J. Meatheringham, Peter R. Wood, B. Louise Webster, David H. Morgan, & Holland C. Ford.* 315, L107, 49-D2 (1987)

The Internal Dynamics of the Planetary Nebulae in the Large Magellanic Cloud. *Michael A. Dopita, Stephen J. Meatheringham, B. Louise Webster, & Holland C. Ford.* 327, 639, 55-F2 (1988)

The Kinematics of the Planetary Nebulae in the Large Magellanic Cloud. *Stephen J. Meatheringham, Michael A. Dopita, Holland C. Ford, & B. Louise Webster.* 327, 651, 55-F14 (1988)

Fluxes and Ionized Masses of Magellanic Cloud Planetary Nebulae. *Stephen J. Meatheringham, Michael A. Dopita, & David H. Morgan.* 329, 166, 76-G4 (1988)

The Nebula around EGB 6/PG 0950+139: Evidence for Ablation of a Jovian Planet? *Michael A. Dopita & James Liebert.* 347, 910, 194-G1 (1989)

Abundances of the Heavy Elements in the Magellanic Clouds. II. H II Regions and Supernova Remnants. *Stephen C. Russell & Michael A. Dopita.* 74, 93, 31-B7 (1990)

DORMAN, BEN. Theoretical Models of Low-Mass Stars and Brown Dwarfs. I. The Lower Main Sequence. *Ben Dorman, Lorne A. Nelson, & W. Y. Chau.* 342, 1003, 114-F5 (1989)

On the Horizontal Branch and the Helium Content of 47 Tucanae. *Ben Dorman, Don A. VandenBerg, & P. G. Laskarides.* 343, 750, 128-E3 (1989)

DORREN, J. D. A New Formulation of the Starspot Model, and the Consequences of Starspot Structure. *J. D. Dorren.* 320, 756, 118-A11 (1987)

The Evolution of Magnetic Activity on V711 Tauri and Evidence for a Significant Facular Contribution. *J. D. Dorren & E. F. Guinan.* 348, 703, 11-C1 (1990)

DOSCHEK, G. A. S V Line Ratios in the Sun. *P. L. Dufton, A. Hibbert, F. P. Keenan, A. E. Kingston, & G. A. Doschek.* 300, 448, 6-A4 (1986)

High-Resolution X-Ray Spectra of Solar Flares. VIII. Mass Upflow in the Large Flare of 1980 November 7. *J. T. Karpen, G. A. Doschek, & J. F. Seely.* 306, 327, 85-A1 (1986)

The Temperature of Solar Flares Determined from X-Ray Spectral Line Ratios. *G. A. Doschek & U. Feldman.* 313, 883, 26-D7 (1987)

Ultraviolet Al III Emission Lines and the Physics of the Solar Transition Region. *G. A. Doschek & U. Feldman.* 315, L67, 45-F5 (1987)

Observations of Nonthermal Energy Distributions during the Impulsive Phase of Solar Flares. *J. F. Seely, U. Feldman, & G. A. Doschek.* 319, 541, 99-B9 (1987)

Transient Ionization and Solar Flare X-Ray Spectra. *G. A. Doschek & K. Tanaka.* 323, 799, 163-E1 (1987)

Measurement of Wavelengths for Inner-Shell Transitions in Ca XVII–XIX. *J. F. Seely & G. A. Doschek.* 338, 567, 39-G7 (1989)

High-Resolution X-Ray Spectra of Solar Flares. IX. Mass Upflow in the Long-Duration Flare of 1979 June 5. *G. A. Doschek, U. Feldman, J. F. Seely, & D. L. McKenzie.* 345, 1079, 164-A1 (1989)

The Ar/Ca Abundance Ratio in Solar Flares. *G. A. Doschek & J. F. Seely.* 348, 341, 5-C4 (1990)

Soft X-Ray Spectroscopy of Solar Flares: An Overview. *G. A. Doschek.* 73, 117, 19-B13 (1990)

Solar Coronal Ar/Fe and Ne/Mg Abundance Ratios Derived from Ultraviolet Forbidden Line Spectra. *G. A. Doschek & A. K. Bhatia.* 358, 338, 126-C5 (1990)

On the Dependence of Solar Flare X-Ray Spectral Line Intensity Ratios of Highly Ionized Sulfur, Calcium, and Iron on Electron Temperature, Differential Emission Measure, and Atomic Physics. *G. A. Doschek, A. Fludra, R. D. Bentley, J. Lang, K. J. H. Phillips, & T. Watanabe.* 358, 665, 131-G3 (1990)

DOSCHEK, GEORGE A. Nonlocal Thermal Transport in Solar Flares. II. Spectroscopic Diagnostics. *Judith T. Karpen, Chung-Chieh Cheng, George A. Doschek, & C. Richard DeVore.* 338, 1184, 48-C3 (1989)

DOTANI, T. *Ginga* Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

Discovery of a Peculiar X-Ray Pulsar GS 1843+00. *K. Koyama, M. Kawada, Y. Takeuchi, Y. Tawara, N. Ushimaru, T. Dotani, & M. Takizawa.* 356, LA7, 110-B11 (1990)

Independence of Short Time Scale Fluctuations of Quasi-periodic Oscillations and Low-Frequency Noise in GX 5–1. *J. P. Norris, P. Hertz, K. S. Wood, B. A. Vaughan, P. F. Michelson, K. Mitsuda, & T. Dotani.* 361, 514, 164-E1 (1990)

DOTANI, TADAYASU. *Ginga* Observations of the 50 Millisecond Pulsar PSR 0540–69. *Fumiaki Nagase, John Deeter, Wayne Lewis, Tadayasu Dotani, Fumiyoshi Makino, & Kazuhisa Mitsuda.* 351, L13, 43-C1 (1990)

DOUTHAT, DARYL A. Initial Vibrational and Rotational Yields from Subexcitation Electrons in Molecular Hydrogen. *Daryl A. Douthat.* 314, 419, 32-F13 (1987)

DOVE, J. E. Excitation and Dissociation of Molecular Hydrogen in Shock Waves at Interstellar Densities. *J. E. Dove, A. C. M. Rusk, P. H. Cribb, & P. G. Martin.* 318, 379, 83-A11 (1987)

DOVE, JOHN E. The Rate of Dissociation of Molecular Hydrogen by Hydrogen Atoms at Very Low Densities. *John E. Dove & Margot E. Mandy.* 311, L93, 160-F6 (1986)

DOW, M. W. IRAS Galaxies at Low Galactic and High Supergalactic Latitudes. *M. W. Dow, N. Y. Lu, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 324, L51, 18-B9 (1988)

Identifying Galaxies in the Zone of Avoidance. *N. Y. Lu, M. W. Dow, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 357, 388, 117-D7 (1990)

DOWDY, JAMES F., JR. A Comparison between Bright Points in a Coronal Hole and a Quiet-Sun Region. *Shadia Rifai Habbal, James F. Dowdy, Jr., & George L. Withbroe.* 352, 333, 54-A1 (1990)

DOWNES, D. The Distance to the Center of the Galaxy: H_2O Maser Proper Motions in Sagittarius B2(N). *M. J. Reid, M. H. Schneps, J. M. Moran, C. R. Gwinn, R. Genzel, D. Downes, & B. Rönnäng.* 330, 809, 101-D7 (1988)

Warm Gas and Spatial Variations of Molecular Excitation in the Nuclear Region of IC 342. *A. Eckart, D. Downes, R. Genzel, A. I. Harris, D. T. Jaffe, & W. Wild.* 348, 434, 8-A3 (1990)

Dense Molecular Clouds and the Arp 220 Starburst. *P. M. Solomon, Simon J. E. Radford, & D. Downes.* 348, L53, 13-B5 (1990)

DOWNES, R. A. The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault.* 317, 355, 67-F14 (1987)

DOWNES, RONALD A. Discovery of a New Short-Period, Eclipsing Cataclysmic Variable. *Ronald A. Downes, Mario Mateo, Paula Szkody, David C. Jenner, & Bruce Margon.* 301, 240, 16-E9 (1986)

The KPD Survey for Galactic Plane Ultraviolet-Excess Objects: Space Densities of White Dwarfs and Subdwarfs. *Ronald A. Downes.* 61, 569, 25-A12 (1986)

The Space Density of Classical Novae. *Ronald A. Downes.* 307, 170, 97-A1 (1986)

The Stars with Hα Missing. *Ronald A. Downes.* 316, 763, 60-D8 (1987)

Further Observations of the Peculiar Hot Helium-rich Degenerate KPD 0005+5106. *Ronald A. Downes, Edward M. Sion, James Liebert, & J. B. Holberg.* 321, 943, 134-G4 (1987)

Spectra of Galaxies in the Case Low-Dispersion Sky Survey in the Direction of the Bootes Void. *Donna Weistrop & Ronald A. Downes.* 331, 172, 108-A1 (1988)

DOWNS, G. S. JPL Pulsar Timing Observations. IV. Excess Phase Noise. *G. S. Downs & J. Krause-Polstorff.* 62, 81, 32-G8 (1986)

JPL Pulsar Timing Observations. V. Macro- and Microjumps in the Vela Pulsar 0833–45. *J. M. Cordes, G. S. Downs, & J. Krause-Polstorff.* 330, 847, 101-G6 (1988)

DOYLE, J. G. 1973 September 7 Two-Ribbon Flare. I. Morphology and Loop Expansion. *J. G. Doyle & K. G. Widing.* 352, 754, 60-D2 (1990)

1973 September 7 Two-Ribbon Flare. II. Physical Properties of the Loops in the Arcade. *K. G. Widing & J. G. Doyle.* 352, 760, 60-E1 (1990)

DOYON, RENÉ. The Molecular Hydrogen Emission from the Cepheus A Star Formation Region. *René Doyon & Daniel Nadeau.* 334, 883, 166-B9 (1988)

DRACH, J. Elemental Technetium and Promethium as Cosmic-Ray Clocks. *J. Drach & M. H. Salamon.* 319, 237, 95-E9 (1987)

DRAGOVAN, M. Polarization of Far-Infrared Radiation from Molecular Clouds. *G. Novak, D. P. Gonatas, R. H. Hildebrand, S. R. Platt, & M. Dragovan.* 345, 802, 160-F1 (1989)

DRAGOVAN, MARK. Submillimeter Polarization in the Orion Nebula. *Mark Dragovan.* 308, 270, 111-A8 (1986)

DRAINE, B. T. Magnetohydrodynamic Shocks in Diffuse Clouds. I. Chemical Processes. *B. T. Draine & Neal Katz.* 306, 655, 91-F7 (1986)

Magnetohydrodynamic Shocks in Diffuse Clouds. II. Production of CH^+, OH, CH, and Other Species. *B. T. Draine & Neal Katz.* 310, 392, 136-C5 (1986)

Magnetohydrodynamic Shocks in Diffuse Clouds. III. The Line of Sight toward ζ Ophiuchi. *B. T. Draine.* 310, 408, 136-D7 (1986)

Stellar Multiplicity in the Scorpius-Centaurus Association Tabulated Optical Properties of Graphite and Silicate Grains: Erratum. *Hugo Levato, Stella Malaroda, Nidia Morrell, Gladys Solivella, & B. T. Draine.* 64, 487, 23-B8 (1987)

Tabulated Optical Properties of Graphite and Silicate Grains: Erratum. *B. T. Draine.* 64, 505, 23-C11 (1987) (Orig. paper in 57, 587, 9-B4 (1985))

Optical Properties of Interstellar Graphite and Silicate Grains: Erratum. *B. T. Draine & Hyung Mok Lee.* 318, 485, 84-C4 (1987) (Orig. paper in 285, 89, 111-A3 (1984))

Collisional Charging of Interstellar Grains. *B. T. Draine & Brian Sutin.* 320, 803, 118-E5 (1987)

Oblique Magnetohydrodynamic Shock Waves in Molecular Clouds. *Mark Wardle & B. T. Draine.* 321, 321, 125-F8 (1987)

The Discrete-Dipole Approximation and Its Application to Interstellar Graphite Grains. *B. T. Draine.* 333, 848, 149-E9 (1988)

On the Dust Grain Origin of the Cosmic Submillimeter Background. *B. T. Draine & Paul R. Shapiro.* 344, L45, 148-A10 (1989)

Temperature Fluctuations in the Interstellar Grains. I. Computational Method and Sublimation of Small Grains. *P. Guhathakurta & B. T. Draine.* 345, 230, 152-A6 (1989)

A New Class of Solutions for Interstellar Magnetohydrodynamic Shock Waves. *W. G. Roberge & B. T. Draine.* 350, 700, 34-F13 (1990)

On the H_2 Line Emission from NGC 6240 and Other Starburst Galaxies. *B. T. Draine & D. T. Woods.* 363, 464, 190-A1 (1990)

DRAKE, J. F. Prominence Formation in a Coronal Loop. *Y. Mok, J. F. Drake, D. D. Schnack, & G. Van Hoven.* 359, 228, 136-G11 (1990)

DRAKE, STEPHEN A. The Discovery of Nonthermal Radio Emission from Magnetic Bp–Ap Stars. *Stephen A. Drake, David C. Abbott, T. S. Bastian, J. H. Bieging, E. Churchwell, G. Dulk, & Jeffrey L. Linsky.* 322, 902, 149-F10 (1987)

The Evolution of Chromospheric Activity of Cool Giant and Subgiant Stars. *Theodore Simon & Stephen A. Drake.* 346, 303, 169-G11 (1989)

A Survey of the Radio Continuum Emission of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 71, 905, 48-F11 (1989)

DRAPATZ, SIEGFRIED. Airborne Infrared Spectroscopy of Comet Wilson (1986l) and Comparisons with Comet Halley. *Harold P. Larson, Harold A. Weaver, Michael J. Mumma, & Siegfried Drapatz.* 338, 1106, 47-D1 (1989)

DRAPER, P. W. Polarimetry of the NGC 2261/R Monocerotis System and the Faint Jetlike Feature to its Southwest. *R. F. Warren-Smith, P. W. Draper, & S. M. Scarrott.* 315, 500, 46-B11 (1987)

DRDLA, K. The CS Molecule in Diffuse Interstellar Clouds. *K. Drdla, G. R. Knapp, & E. F. van Dishoeck.* 345, 815, 160-G1 (1989)

DREHER, J. W. The Faraday Rotation of Cygnus A: Magnetic Fields in Cluster Gas. *J. W. Dreher, C. L. Carilli, & R. A. Perley.* 316, 611, 58-F7 (1987)

Discovery of the Bow Shock of Cygnus A. *C. L. Carilli, R. A. Perley, & J. W. Dreher.* 334, L73, 169-C9 (1988)

DRESSEL, L. L. Powerful Warm Infrared Sources in Early-Type Galaxies. *L. L. Dressel.* 329, L69, 89-B11 (1988)

DRESSLER, ALAN. The Morphological Types and Orbits of H I Deficient Spirals in Clusters of Galaxies. *Alan Dressler.* 301, 35, 14-D1 (1986)

Blue Disk Galaxies in the Coma Cluster: Analogs to $z = 0.5$ Cluster Members? *Gregory D. Bothun & Alan Dressler.* 301, 57, 14-E9 (1986)

Internal Kinematics of Spiral Galaxies: Gas and Stellar Rotation Curves and Dispersion Profiles. *James A. Fillmore, Todd A. Boroson, & Alan Dressler.* 302, 208, 30-B12 (1986)

A Dynamical Study of Merger Remnants. *George Lake & Alan Dressler.* 310, 605, 140-D9 (1986)

Spectroscopy and Photometry of Elliptical Galaxies. I. New Distance Estimator. *Alan Dressler, Donald Lynden-Bell, David Burstein,*

Roger L. Davies, S. M. Faber, Roberto Terlevich, & Gary Wegner. 313, 42, 15-D7 (1987)

Spectroscopy and Photometry of Elliptical Galaxies: A Large-Scale Streaming Motion in the Local Universe. *Alan Dressler, S. M. Faber, David Burstein, Roger L. Davies, Donald Lynden-Bell, R. J. Terlevich, & Gary Wegner.* 313, L37, 27-A9 (1987)

The D_n-σ Relation for Bulges of Disk Galaxies: A New, Independent Measure of the Hubble Constant. *Alan Dressler.* 317, 1, 64-A7 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. II. The Spectroscopic Parameters. *Roger L. Davies, David Burstein, Alan Dressler, S. M. Faber, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 581, 26-B1 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. III. *UBV* Aperture Photometry, CCD Photometry, and Magnitude-related Parameters. *David Burstein, Roger L. Davies, Alan Dressler, S. M. Faber, Remington P. S. Stone, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 601, 26-C7 (1987)

Stellar Dynamics in the Nuclei of M31 and M32: Evidence for Massive Black Holes. *Alan Dressler & Douglas O. Richstone.* 324, 701, 11-A7 (1988)

Photometry and Spectroscopy of Elliptical Galaxies. V. Galaxy Streaming toward the New Supergalactic Center. *D. Lynden-Bell, S. M. Faber, David Burstein, Roger L. Davies, Alan Dressler, R. J. Terlevich, & Gary Wegner.* 326, 19, 32-B12 (1988)

The Supergalactic Plane Redshift Survey: A Candidate for the Great Attractor. *Alan Dressler.* 329, 519, 82-C1 (1988)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 69, 763, 12-G7 (1989)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary: Erratum. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 71, 173, 36-E7 (1989) (Orig. paper in 69, 763, 12-G7 (1989))

New Measurements of Stellar Kinematics in the Core of M87. *Alan Dressler & D. O. Richstone.* 348, 120, 2-E1 (1990)

Constraints on the Mass Distribution near the Centers of M31 and M32. *Douglas Richstone, Gary Bower, & Alan Dressler.* 353, 118, 63-E5 (1990)

Confirmation of a Large-Scale, Large-Amplitude Flow in the Direction of the Great Attractor. *Alan Dressler & S. M. Faber.* 354, 13, 74-C1 (1990)

Evidence from the Motions of Galaxies for a Large-Scale, Large-Amplitude Flow toward the Great Attractor. *David Burstein, S. M. Faber, & Alan Dressler.* 354, 18, 74-C7 (1990)

New Measurements of Distances to Spirals in the Great Attractor: Further Confirmation of the Large-Scale Flow. *Alan Dressler & S. M. Faber.* 354, L45, 86-B9 (1990)

Potential, Velocity, and Density Fields from Redshift-Distance Samples: Application: Cosmography within 6000 Kilometers per Second. *Edmund Bertschinger, Avishai Dekel, S. M. Faber, Alan Dressler, & David Burstein.* 364, 370, 200-E6 (1990)

DREW, J. E. Ionization and Thermal Equilibrium Models for O Star Winds Based on Time-independent Radiation-driven Wind Theory. *J. E. Drew.* 71, 267, 38-F1 (1989)

A New Theoretical Calibration of the Relation between Mass-Loss Rate and Hα Emission for O Star Winds. *J. E. Drew.* 357, 573, 119-F9 (1990)

DRILLING, J. S. On the Nature of Newly Formed Dust around the Hydrogen-deficient Star V348 Sagittarii. *J. S. Drilling & D. Schönberner.* 343, L45, 132-B9 (1989)

DRINKWATER, M. J. A Diffraction-limited f/2 1.5 Meter Diameter Liquid Mirror. *E. F. Borra, R. Content, M. J. Drinkwater, & S. Szapiel.* 346, L41, 173-E2 (1989)

DRISCOLL, DAN. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

DRISSEN, L. Spectroscopic and Polarimetric Parameters of the Runaway WN7 Binary System HD 197406: Is the Secondary an X-Ray–quiet Black Hole? *L. Drissen, R. Lamontagne, A. F. J. Moffat, P. Bastien, & M. Seguin.* 304, 188, 56-A1 (1986)

Polarimetic Observations of the WN7 Binary CQ Cephei. *L. Drissen, A. F. J. Moffat, P. Bastien, R. Lamontagne, & S. Tapia.* 306, 215, 83-E12 (1986)

Photometry and Polarimetry of the Unusual WN5 Star EZ Canis Majoris. *L. Drissen, C. Robert, R. Lamontagne, A. F. J. Moffat, N. St-Louis, N. van Weeren, & A. M. van Genderen.* 343, 426, 123-C13 (1989)

The Wolf-Rayet Star Population in the Most Massive Giant H II Regions of M33. *L. Drissen, A. F. J. Moffat, & M. M. Shara.* 364, 496, 202-C10 (1990)

DRISSEN, LAURENT. Polarization Variability among Wolf-Rayet Stars. I. Linear Polarization of a Complete Sample of Southern Galactic WC Stars. *Nicole St-Louis, Laurent Drissen, Anthony F. J. Moffat, Pierre Bastien, & Santiago Tapia.* 322, 870, 149-C13 (1987)

Polarization Variability among Wolf-Rayet Stars. II. Linear Polarization as a Complete Sample of Southern Galactic WN Stars. *Laurent Drissen, Nicole St-Louis, Anthony F. J. Moffat, & Pierre Bastien.* 322, 888, 149-E5 (1987)

Polarization Variability among Wolf-Rayet Stars. III. A New Way to Derive Mass-Loss Rates for Wolf-Rayet Stars in Binary Systems. *Nicole St-Louis, Anthony F. J. Moffat, Laurent Drissen, Pierre Bastien, & Carmelle Robert.* 330, 286, 93-C4 (1988)

Spectroscopic Evidence for Rapid Blob Ejection in Wolf-Rayet Stars. *Anthony F. J. Moffat, Laurent Drissen, Robert Lamontagne, & Carmelle Robert.* 334, 1038, 168-A5 (1988)

Polarization Variability among Wolf-Rayet Stars. V. Linear Polarization of the Bright Cygnus Stars and an Anticorrelation of Variability with Wind Speed. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Laurent Drissen, & Nicole St-Louis.* 347, 1034, 196-D5 (1989)

Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)

Polarization Variability among Wolf-Rayet Stars. VI. Linear Polarimetry of the Eclipsing Binary V444 Cygni. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Nicole St-Louis, & Laurent Drissen.* 359, 211, 136-F3 (1990)

DRÖGE, WOLFGANG. Particle Acceleration in Solar Flares. *Wolfgang Dröge & Reinhard Schlickeiser.* 305, 909, 79-A1 (1986)

Characteristics of Energetic Solar Flare Electron Spectra. *Dan Moses, Wolfgang Dröge, Peter Meyer, & Paul Evenson.* 346, 523, 172-F1 (1989)

A 153 Day Periodicity in the Occurrence of Solar Flares Producing Energetic Interplanetary Electrons. *Wolfgang Dröge, Kenneth Gibbs, John M. Grunsfeld, Peter Meyer, Brian J. Newport, Paul Evenson, & Dan Moses.* 73, 279, 21-E7 (1990)

DROSSART, P. Detection of Arsine in Saturn. *B. Bézard, P. Drossart, E. Lellouch, G. Tarrago, & J.-P. Maillard.* 346, 509, 172-D11 (1989)

H_3^+ Fundamental Band in Jupiter's Auroral Zones at High Resolution from 2400 to 2900 Inverse Centimeters. *J.-P. Maillard, P. Drossart, J. K. G. Watson, S. J. Kim, & J. Caldwell.* 363, L37, 193-F1 (1990)

DROSSART, PIERRE. A Statistical Model for the Scattering by Irregular Particles. *Pierre Drossart.* 361, L29, 161-F8 (1990)

DRUCKER, WENDY. Differences among Expansion Velocities of Type Ia Supernovae. *David Branch, Wendy Drucker, & David J. Jeffery.* 330, L117, 105-A1 (1988)

DRUKIER, GORDON A. Hot Subdwarfs in Globular Clusters. *Gordon A. Drukier, Gregory G. Fahlman, & Harvey B. Richer.* 342, L27, 109-C4 (1989)

DRYER, M. Theoretical Non-Maxwellian Particle Velocity Distribution Functions for Spherically Symmetric Solar Wind–like Description for Each Species. *S. Cuperman, H. Yatom, M. Dryer, & D. Lewis.* 314, 404, 32-E11 (1987)

Effect of Coupled Electron-Proton Thermal Conductivities on the Two-Fluid Solutions for the Quiet Solar Wind. *S. Cuperman, T. Detman, & M. Dryer.* 330, 466, 95-E1 (1988)

The Effect of the Solenoidal Condition on the Numerical Magnetohydrodynamic Simulation of Coronal Dynamics. *S. T. Wu, M. Dryer, R. S. Steinolfson, & E. Tandberg-Hanssen.* 333, 386, 142-C8 (1988)

Thermally Conductive Magnetohydrodynamic Flows in Helmet-Streamer Coronal Structures. *S. Cuperman, L. Ofman, & M. Dryer.* 350, 846, 36-D13 (1990)

DU, M. L. The Radiative Association of C and O and C^+ and O. *A. Dalgarno, M. L. Du, & J. H. You.* 349, 675, 23-F1 (1990)

DUBISCH, RUSSELL. Using Far-Infrared Limb Brightening to Probe Isolated Dark Globules. *Chun Ming Leung, Estela V. O'Brien, & Russell Dubisch.* 337, 293, 21-A9 (1989)

DUBRULLE, BERENGERE. Dynamical Collapse of the W51 Star-forming Region. *Alexander Rudolph, William J. Welch, Patrick Palmer, & Berengere Dubrulle.* 363, 528, 190-F9 (1990)

DUFFY, P. B. Far-Infrared Spectroscopy of Star Formation Regions in M82. *P. B. Duffy, E. F. Erickson, M. R. Haas, & J. R. Houck.* 315, 68, 40-F6 (1987)

DUFOUR, REGINALD J. Ultraviolet and Visual Wavelength Spectroscopy of Gas around Eta Carinae. *Kris Davidson, Reginald J. Dufour, Nolan R. Walborn, & Theodore R. Gull.* 305, 867, 78-D3 (1986)

Spectrophotometry and Chemical Composition of the Oxygen-poor Bipolar Nebula NGC 6164–5. *Reginald J. Dufour, Robert A. R. Parker, & Karl G. Henize.* 327, 859, 58-A12 (1988)

The Abundances of Carbon and Nitrogen in I Zw 18. *Reginald J. Dufour, Donald R. Garnett, & Gregory A. Shields.* 332, 752, 132-F5 (1988)

Extended Emission and Star Formation in I Zw 18. *Reginald J. Dufour & J. Jeff Hester.* 350, 149, 26-G8 (1990)

DUFTON, P. L. S v Line Ratios in the Sun. *P. L. Dufton, A. Hibbert, F. P. Keenan, A. E. Kingston, & G. A. Doschek.* 300, 448, 6-A4 (1986)

A Model Atmosphere Analysis of the Faint Early-Type Halo Star PHL 346. *F. P. Keenan, D. J. Lennon, P. J. F. Brown, & P. L. Dufton.* 307, 694, 104-E2 (1986)

Electron Density Diagnostics for Late-Type Stellar Atmospheres. *F. P. Keenan, P. L. Dufton, K. M. Aggarwal, & A. E. Kingston.* 324, 1068, 15-C3 (1988)

Solar Si III Line Ratios from the High-Resolution Telescope and Spectrograph on Board *Spacelab 2*: The Effects of Non-Maxwellian Electron Distribution Function. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 340, 1135, 82-D1 (1989)

The Determination of Element Abundances in the Solar Neighborhood from B-Type Stellar Spectra. I. Argon. *F. P. Keenan, B. Bates, P. L. Dufton, D. E. Holmgren, & S. Gilheany.* 348, 322, 5-A7 (1990)

Fe XV Line Ratios in the Sun: Discrepancies between Theory and Observations. *P. L. Dufton, A. E. Kingston, & K. G. Widing.* 353, 323, 66-C1 (1990)

Interspecies Emission-Line Ratios as Electron Density Diagnostics for Late-Type Stellar Atmospheres. *F. P. Keenan, P. L. Dufton, & A. E. Kingston.* 353, 636, 71-G1 (1990)

The Chemical Composition of a Main-Sequence Star in the Small Magellanic Cloud. *P. L. Dufton, A. Fitzsimmons, & I. D. Howarth.* 362, L59, 181-C11 (1990)

The Determination of Element Abundances in the Solar Neighborhood from B-Type Stellar Spectra. II. Non–LTE Calculations for Ar II. *D. E. Holmgren, P. J. F. Brown, P. L. Dufton, & F. P. Keenan.* 364, 657, 204-C11 (1990)

DUFTON, PHILIP L. PG 0832+676: An Apparently Normal B1 V Star 18 Kiloparsecs above the Galactic Plane. *Paul J. F. Brown, Philip L. Dufton, Francis P. Keenan, Alec Boksenberg, David L. King, & Max Pettini.* 339, 397, 55-A2 (1989)

DULEY, W. W. A 217.5 Nanometer Absorption Feature in the Spectrum of Small Silicate Particles. *T. M. Steel & W. W. Duley.* 315, 337, 43-E8 (1987)

Laboratory Synthesis of Hydrogenated Amorphous Carbon Films. *M. Ogmen & W. W. Duley.* 334, L117, 169-G1 (1988)

Simple Linear Polycyclic Aromatic Hydrocarbon Molecules and the Infrared Emission Features: Mothballs in the Orion Ridge? *W. W. Duley & A. P. Jones.* 351, L49, 49-E5 (1990)

DULK, G. The Discovery of Nonthermal Radio Emission from Magnetic Bp–Ap Stars. *Stephen A. Drake, David C. Abbott, T. S. Bastian, J. H. Bieging, E. Churchwell, G. Dulk, & Jeffrey L. Linsky.* 322, 902, 149-F10 (1987)

DULK, G. A. The Electron-Cyclotron Maser Instability as a Source of Plasma Radiation. *R. M. Winglee & G. A. Dulk.* 307, 808, 105-G2 (1986)

Particle Propagation Effects on Wave Growth in a Solar Flux Tube. *S. M. White, D. B. Melrose, & G. A. Dulk.* 308, 424, 112-F1 (1986)

The Electron-Cyclotron Maser Instability as the Source of Solar Type V Continuum. *R. M. Winglee & G. A. Dulk.* 310, 432, 136-F3 (1986)

Radio Flares from AE Aquarii: A Low-Power Analog to Cygnus X-3? *T. S. Bastian, G. A. Dulk, & G. Chanmugam.* 324, 431, 6-A1 (1988)

Energy Transport by Energetic Electrons Released during Solar Flares. I. Thermal versus Nonthermal Processes. *R. M. Winglee, P. L. Pritchett, & G. A. Dulk.* 327, 968, 59-D12 (1988)

Fine Structure of Microwave Spike Bursts and Associated Cross-Field Energy Transport. *R. M. Winglee, G. A. Dulk, & P. L. Pritchett.* 328, 809, 72-A1 (1988)

Energy Transport by Energetic Electrons Released during Solar Flares. II. Current Filamentation and Plasma Heating. *R. M. Winglee, P. L. Pritchett, & G. A. Dulk.* 329, 440, 80-A1 (1988)

Radio Flares from AE Aquarii: A Low-Power Analog to Cygnus X-3?: Erratum. *T. S. Bastian, G. A. Dulk, & G. Chanmugam.* 330, 518, 96-A12 (1988) (Orig. paper in 324, 431, 6-A1 (1988))

Dynamic Spectra of Radio Bursts from Flare Stars. *T. S. Bastian, J. Bookbinder, G. A. Dulk, & M. Davis.* 353, 265, 65-D1 (1990)

Modeling Solar Flare Conduction Fronts. I. Homogeneous Plasmas and Ion-acoustic Turbulence. *M. E. McKean, R. M. Winglee, & G. A. Dulk.* 364, 295, 197-F5 (1990)

Modeling Solar Flare Conduction Fronts. II. Inhomogeneous Plasmas and Ambipolar Electric Fields. *M. E. McKean, R. M. Winglee, & G. A. Dulk.* 364, 302, 197-G1 (1990)

DULK, GEORGE A. Two-Frequency Imaging of Microwave Impulsive Flares near the Solar Limb. *George A. Dulk, Timothy S. Bastian, & Sharad R. Kane.* 300, 438, 5-G6 (1986)

A Search for Cyclotron Maser Radiation from Substellar and Planet-like Companions of Nearby Stars. *Robert M. Winglee, George A. Dulk, & Timothy S. Bastian.* 309, L59, 125-G7 (1986)

DUNAWAY, M. H. Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)

DUNCAN, D. K. Variable Polarization and Activity in Arcturus. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, & D. K. Duncan.* 301, L35, 20-D7 (1986)

The Activity, Variability, and Rotation of Lower Main-Sequence Hyades Stars. *Richard R. Radick, D. T. Thompson, G. W. Lockwood, D. K. Duncan, & W. E. Baggett.* 321, 459, 127-B10 (1987)

DUNCAN, DOUGLAS K. The Lithium Abundance in Halo Stars. *L. M. Hobbs & Douglas K. Duncan.* 317, 796, 74-F10 (1987)

The Pleiades Rapid Rotators: Evidence for an Evolutionary Sequence. *R. Paul Butler, Ross D. Cohen, Douglas K. Duncan, & Geoffrey W. Marcy.* 319, L19, 100-B9 (1987)

DUNCAN, MARTIN. The Origin of Short-Period Comets. *Martin Duncan, Thomas Quinn, & Scott Tremaine.* 328, L69, 74-F9 (1988)

Planetary Perturbations and the Origin of Short-Period Comets. *Thomas Quinn, Scott Tremaine, & Martin Duncan.* 355, 667, 96-G9 (1990)

DUNCAN, MARTIN J. A Highly Triaxial *N*-Body System Tumbling about Its Intermediate Axis. *Martin J. Duncan & Harold F. Levison.* 339, L17, 58-B9 (1989)

Dynamical Instabilities in Axisymmetric Stellar Systems. I. Oblate E6 Models. *Harold F. Levison, Martin J. Duncan, & Bruce F. Smith.* 363, 66, 183-A6 (1990)

DUNCAN, ROBERT C. Neutrino-driven Winds from Young, Hot Neutron Stars. *Robert C. Duncan, Stuart L. Shapiro, & Ira Wasserman.* 309, 141, 121-E4 (1986)

Quasar Ionization of Lyman-Alpha Clouds: The Proximity Effect, a Probe of the Ultraviolet Background at High Redshift. *Stanislaw Bajtlik, Robert C. Duncan, & Jeremiah P. Ostriker.* 327, 570, 55-A3 (1988)

Clustering and Voids in the Lyman-Alpha Forest. *Jeremiah P. Ostriker, Stanislaw Bajtlik, & Robert C. Duncan.* 327, L35, 61-A11 (1988)

Voids in the Lyα Forest. *Robert C. Duncan, Jeremiah P. Ostriker, & Stanislaw Bajtlik.* 345, 39, 149-D12 (1989)

DUNCAN, W. D. Cold Dust in Galaxies. *S. A. Eales, C. G. Wynn-Williams, & W. D. Duncan.* 339, 859, 62-D7 (1989)

Submillimeter Measurements of T Tauri and FU Orionis Stars. *David A. Weintraub, G. Sandell, & W. D. Duncan.* 340, L69, 83-C10 (1989)

DUNCAN, WILLIAM. Submillimeter Observations of the Sun from the James Clerk Maxwell Telescope. *Charles A. Lindsey, Selwyn Yee, Thomas L. Roellig, Richard Hills, David Brock, William Duncan, Graeme Watt, Adrian Webster, & John T. Jefferies.* 353, L53, 73-C6 (1990)

DUNN, K. Two-Fluid Bianchi VI_0 Spacetimes. *A. Coley & K. Dunn.* 348, 26, 1-D1 (1990)

DUNNAM, F. E. Gamma-Ray Observations of SN 1987A from Antarctica. *A. C. Rester, R. L. Coldwell, F. E. Dunnam, G. Eichhorn, J. I. Trombka, R. Starr, & G. P. Lasche.* 342, L71, 117-D1 (1989)

DUNPHY, P. P. Gamma-Ray Observations of the Crab Region Using a Coded-Aperture Telescope. *M. L. McConnell, P. P. Dunphy, D. J. Forrest, E. L. Chupp, & A. Owens.* 321, 543, 128-A13 (1987)

Gamma-Ray Observations of Cygnus X-1 and Cygnus X-3 Using a Coded-Aperture Telescope. *M. L. McConnell, D. J. Forrest, A. Owens, P. P. Dunphy, W. T. Vestrand, & E. L. Chupp.* 343, 317, 122-B2 (1989)

DUPREE, A. K. Periodic Photospheric and Chromospheric Modulation in Alpha Orionis (Betelgeuse). *A. K. Dupree, S. L. Baliunas, E. F. Guinan, L. Hartmann, G. E. Nassiopoulos, & G. Sonneborn.* 317, L85, 78-D4 (1987)

The Interstellar Medium toward Supernova 1987A. *A. K. Dupree, R. P. Kirshner, G. E. Nassiopoulos, J. C. Raymond, & G. Sonneborn.* 320, 597, 116-B11 (1987)

Chromospheres of Metal-deficient Field Giants. *A. K. Dupree, L. Hartmann, & Graeme H. Smith.* 353, 623, 71-F1 (1990)

Chromospheres of Two Red Giants in NGC 6752. *A. K. Dupree, G. M. Harper, L. Hartmann, Carole Jordan, A. W. Rodgers, & Graeme H. Smith.* 361, L9, 161-D4 (1990)

DUPUIS, J. Selective Mass Loss, Abundance Anomalies, and Helium-rich Stars. *G. Michaud, J. Dupuis, G. Fontaine, & T. Montmerle.* 322, 302, 141-B7 (1987)

DURGAPRASAD, N. Observation of Low-Energy (30–100 MeV Nucleon^{-1}) Partially Ionized Heavy Ions in Galactic Cosmic Rays. *S. Biswas, N. Durgaprasad, Banashree Mitra, R. K. Singh, A. Dutta, & J. N. Goswami.* 359, L5, 138-A11 (1990)

DURIC, N. Evidence for Ram Pressure Stripping of NGC 3073 by Outflowing Gas from NGC 3079. *Judith A. Irwin, E. R. Seaquist, A. R. Taylor, & N. Duric.* 313, L91, 27-E3 (1987)

DURIC, NEBOJSA. A Theoretical Interpretation of the Σ–D Relation for Supernova Remnants. *Nebojsa Duric & E. R. Seaquist.* 301, 308, 17-C4 (1986)

The Origin of Cosmic Rays. I. Observations of the Spiral Galaxy NGC 3310. *Nebojsa Duric, E. R. Seaquist, Patrick C. Crane, & L. E. Davis.* 304, 82, 54-G3 (1986)

The Origin of Cosmic Rays. II. The Cosmic-Ray Distribution and the Spiral Structure of NGC 3310. *Nebojsa Duric.* 304, 96, 55-A6 (1986)

The Origin of Cosmic Rays. III. Particle Acceleration by Global Spiral Shocks. *Nebojsa Duric.* 304, 111, 55-B7 (1986)

A Nuclear, Disk-focused Wind and the Bipolar Structure of the Spiral Galaxy NGC 3079. *Nebojsa Duric & E. R. Seaquist.* 326, 574, 39-G2 (1988)

The Discovery of a Population of Compact Radio Sources in the Spiral Galaxy NGC 4736. *Nebojsa Duric & Melissa R. Dittmar.* 332, L67, 137-C9 (1988)

DURISEN, R. H. X-Ray and Ultraviolet Radiation from Accreting White Dwarfs. IV. Two-Temperature Treatment with Electron Thermal Conduction. *J. N. Imamura, R. H. Durisen, D. Q. Lamb, & G. J. Weast.* 313, 298, 18-B14 (1987)

DURISEN, RICHARD H. Dynamic Fission Instabilities in Rapidly Rotating $n = 3/2$ Polytropes: A Comparison of Results from Finite-Difference and Smoothed Particle Hydrodynamics Codes. *Richard H. Durisen, Robert A. Gingold, Joel E. Tohline, & Alan P. Boss.* 305, 281, 70-B2 (1986)

The Evolution of Active Galactic Nuclei. I. Models without Stellar Evolution. *Laurence P. David, Richard H. Durisen, & Haldan N. Cohn.* 313, 556, 22-G9 (1987)

The Evolution of Active Galactic Nuclei. II. Models with Stellar Evolution. *Laurence P. David, Richard H. Durisen, & Haldan N. Cohn.* 316, 505, 57-E4 (1987)

Evolution of Inclined Galactic Gas Disks. I. A Cloud-Fluid Approach. *Thomas Y. Steiman-Cameron & Richard H. Durisen.* 325, 26, 19-C4 (1988)

Numerical Models of Rotating Protostars. *Richard H. Durisen, Shelby Yang, Patrick Cassen, & Steven W. Stahler.* 345, 959, 162-D9 (1989)

The Evolution of Active Galactic Nuclei. III. The Effects of Relativistic Particles on the Intercloud Medium. *Laurence P. David & Richard H. Durisen.* 346, 618, 175-B6 (1989)

A Simple Analytic Model for the Evolution of Captured Galactic Disks. *Thomas Y. Steiman-Cameron & Richard H. Durisen.* 357, 62, 111-G4 (1990)

Numerical Models of Rotating Protostars: Erratum. *Richard H. Durisen, Shelby Yang, Patrick Cassen, & Steven W. Stahler.* 361, 720, 167-A12 (1990) (Orig. paper in 345, 959, 162-D9 (1989))

DURNEY, BERNARD R. On the Expansion of the Rotational Eigenfrequencies in Legendre Polynomials. *Bernard R. Durney, Frank Hill, & Philip R. Goode.* 326, 486, 37-E11 (1988)

On the Behavior of the Angular Velocity in the Lower Part of the Solar Convection Zone. *Bernard R. Durney.* 338, 509, 39-B6 (1989)

On the Numerical Calculation of the Solar Rotational Splitting Coefficients. *Bernard R. Durney.* 351, 682, 48-E9 (1990)

On the Generation of the Solar Magnetic Field in a Region of Weak Buoyancy. *Bernard R. Durney, David S. De Young, & Thierry P. Passot.* 362, 709, 179-E7 (1990)

DURRANCE, S. T. Neutral Oxygen and Sulfur Densities in the Io Torus. *T. E. Skinner & S. T. Durrance.* 310, 966, 144-E7 (1986)

DURRANT, C. J. Stokes Profile Analysis and Vector Magnetic Fields. II. Formal Numerical Solutions of the Stokes Transfer Equations. *D. E. Rees, G. A. Murphy, & C. J. Durrant.* 339, 1093, 65-B8 (1989)

DURRER, RUTH. Antipodal Microwave. *Ruth Durrer & Israel Kovner.* 356, 49, 99-F1 (1990)

DUSCHL, WOLFGANG J. The Recurrent Nova U Scorpii Revisited: Can a Certain Class of Models Be Eliminated? *Wolfgang J. Duschl, Mario Livio, & James W. Truran.* 360, 232, 147-G10 (1990)

DUSI, W. Observations of Galactic and Extragalactic High-Energy X-Ray Sources. *G. Matt, E. Costa, D. Dal Fiume, W. Dusi, F. Frontera, & E. Morelli.* 355, 468, 94-C1 (1990)

D'USTON, C. On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 343, L77, 132-E5 (1989)

On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 349, L33, 19-D4 (1990) (Orig. paper in 343, L77, 132-E5 (1989))

DUTCHOVER, EDWARD, JR. A Search for Lithium-rich Giant Stars. *Jeffery A. Brown, Christopher Sneden, David L. Lambert, & Edward Dutchover, Jr.* 71, 293, 39-A1 (1989)

DUTTA, A. Observation of Low-Energy (30–100 MeV Nucleon^{-1}) Partially Ionized Heavy Ions in Galactic Cosmic Rays. *S. Biswas, N. Durgaprasad, Banashree Mitra, R. K. Singh, A. Dutta, & J. N. Goswami.* 359, L5, 138-A11 (1990)

DUVALL, T. L., JR. Acoustic Absorption by Sunspots. *D. C. Braun, T. L. Duvall, Jr., & B. J. LaBonte.* 319, L27, 100-C9 (1987)

Frequencies of Solar p-Mode Oscillations. *T. L. Duvall, Jr., J. W. Harvey, K. G. Libbrecht, B. D. Popp, & M. A. Pomerantz.* 324, 1158, 16-C1 (1988)

The Absorption of High-Degree p-Mode Oscillations in and around Sunspots. *D. C. Braun, T. L. Duvall, Jr., & B. J. LaBonte.* 335, 1015, 184-A1 (1988)

The Spatial Distribution of p-Mode Absorption in Active Regions. *D. C. Braun, B. J. LaBonte, & T. L. Duvall, Jr.* 354, 372, 78-F3 (1990)

Modeling of Solar Oscillation Power Spectra. *E. R. Anderson, T. L. Duvall, Jr., & S. M. Jefferies.* 364, 699, 204-G4 (1990)

DUXBURY, G. Infrared Transition Frequencies for Methyleneimine, CH_2NH. *L. Halonen & G. Duxbury.* 303, 897, 52-D13 (1986)

DWEK, E. Molecular Clouds and Star Formation in the Inner Galaxy: A Comparison of CO, H II, and Far-Infrared Surveys. *P. C. Myers, T. M. Dame, P. Thaddeus, R. S. Cohen, R. F. Silverberg, E. Dwek, & M. G. Hauser.* 301, 398, 18-B12 (1986)

Physical Processes and Infrared Emission from the Cassiopeia A Supernova Remnant. *E. Dwek, H. L. Dinerstein, F. C. Gillett, M. G. Hauser, & W. L. Rice.* 315, 571, 47-A1 (1987)

Large-Scale Galactic Dust Morphology and Physical Conditions from *IRAS* Observations. *T. J. Sodroski, E. Dwek, M. G. Hauser, & F. J. Kerr.* 322, 101, 139-A10 (1987)

Dust Energetics in the Gas Phases of the Interstellar Medium: The Origin of the Galactic Large-Scale Far-Infrared Emission Observed by *IRAS*. *T. J. Sodroski, E. Dwek, M. G. Hauser, & F. J. Kerr.* 336, 762, 11-G2 (1989)

CO Formation in the Metal-rich Ejecta of SN 1987A. *S. J. Petuchowski, E. Dwek, J. E. Allen, Jr., & J. A. Nuth III.* 342, 406, 105-F14 (1989)

Far-Infrared Spectrophotometry of SN 1987A: Days 265 and 267. *S. H. Moseley, E. Dwek, W. Glaccum, J. R. Graham, R. F. Loewenstein, & R. F. Silverberg.* 347, 1119, 197-E1 (1989)

A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

DWEK, ELI. Temperature Fluctuations and Infrared Emission from Dust Particles in a Hot Gas. *Eli Dwek.* 302, 363, 32-C3 (1986)

Infrared Cirrus and High-Latitude Molecular Clouds. *Janet L. Weiland, Leo Blitz, Eli Dwek, M. G. Hauser, Loris Magnani, & Lee J Rickard.* 306, L101, 94-B6 (1986)

IRAS Observations of Supernova Remnants: A Comparison between Their Infrared and X-Ray Cooling Rates. *Eli Dwek, Robert Petre, Andrew Szymkowiak, & Walter L. Rice.* 320, L27, 114-C4 (1987)

The Infrared Diagnostic of a Dusty Plasma with Applications to Supernova Remnants. *Eli Dwek.* 322, 812, 148-F6 (1987)

Will Dust Black Out SN 1987A? *Eli Dwek.* 329, 814, 86-A1 (1988)

Mystery Spot in Supernova 1987A: Reflection or Fluorescence by an Interstellar Cloud? *James E. Felten, Eli Dwek, & Sueli M. Viegas-Aldrovandi.* 340, 943, 80-B2 (1989)

Are There Detectable Infrared Arcs around Supernova 1987A? *Eli Dwek & James E. Felten.* 342, 300, 104-E8 (1989)

Infrared Emission from Dust in the Coma Cluster of Galaxies. *Eli Dwek, Yoel Rephaeli, & John C. Mather.* 350, 104, 26-C5 (1990)

Comparative Morphological Analysis of Puppis A at Radio, Infrared, Optical, and X-Ray Wavelengths. *Richard G. Arendt, Eli Dwek, Robert Petre, John R. Dickel, Robert S. Roger, Douglas K. Milne, & Michael J. Kesteven.* 350, 266, 28-C6 (1990)

The Effects of Compositional Inhomogeneities and Fractal Dimension on the Optical Properties of Astrophysical Dust. *David Bazell & Eli Dwek.* 360, 142, 146-G3 (1990)

DWYER, ROBERT. Cosmic-Ray Elemental Abundances from 1 to 10 GeV per AMU for Boron through Nickel. *Robert Dwyer & Peter Meyer.* 322, 981, 150-E12 (1987)

DYCK, H. M. Carbon Monoxide Emission from Stars in the *IRAS* and Revised AFGL Catalogs. I. Mass Loss Driven by Radiation Pressure on Dust Grains. *B. Zuckerman & H. M. Dyck.* 304, 394, 58-B11 (1986)

Carbon Monoxide Emission from Stars in the *IRAS* and Revised AFGL Catalogs. II. Massive Carbon Stars. *B. Zuckerman, H. M. Dyck, & M. J. Claussen.* 304, 401, 58-C4 (1986)

Dust Grains and Gas in the Circumstellar Envelopes around Luminous Red-Giant Stars. *B. Zuckerman & H. M. Dyck.* 311, 345, 149-G11 (1986)

Infrared Speckle Observations of the Nucleus of M31. *E. J. Spillar, R. Canterna, K. H. Carels, J. A. Benson, & H. M. Dyck.* 349, L13, 19-B11 (1990)

Speckle Observations of the Central Region of NGC 4151. *G. R. Ayers, J. Benson, K. Carels, H. M. Dyck, & E. Spillar.* 360, 471, 152-B9 (1990)

DYE, S. T. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

DYER, C. C. On the Effects of Inhomogeneity on the Luminosity Structure of the Past Null Cone. *C. C. Dyer & L. M. Oattes.* 326, 50, 32-E3 (1988)

DYER, CHARLES C. An Integral Constraint on the N-Point Correlation Function of Galaxies. *Yin Zhan & Charles C. Dyer.* 343, 107, 119-D11 (1989)

DYMOND, K. F. Observations of a Greenstein Effect in the O I λ1302 Emission of Comet Halley. *K. F. Dymond, P. D. Feldman, & T. N. Woods.* 338, 1115, 47-D10 (1989)

DYSON, J. E. 3C 191 Revisited: Circumquasar Shells and Radio Jets. *Judith J. Perry & J. E. Dyson.* 361, 362, 162-F1 (1990)

DZIEMBOWSKI, W. A. The Radial Gradient in the Sun's Rotation. *W. A. Dziembowski, Philip R. Goode, & K. G. Libbrecht.* 337, L53, 25-E5 (1989)

The Toroidal Magnetic Field inside the Sun. *W. A. Dziembowski & Philip R. Goode.* 347, 540, 188-F1 (1989)

DZIEMBOWSKI, WOJCIECH A. Inferring the Sun's Internal Angular Velocity from Observed p-Mode Frequency Splittings. *Timothy M. Brown, Jørgen Christensen-Dalsgaard, Wojciech A. Dziembowski, Philip Goode, Douglas O. Gough, & Cherilynn A. Morrow.* 343, 526, 124-E6 (1989)

EALES, S. A. The X-Ray Properties of Two Galaxies with High Far-Infrared Luminosities: Arp 220 and Markarian 231. *S. A. Eales & K. A. Arnaud.* 324, 193, 3-C1 (1988)

The Properties and Environment of the Giant, Infrared-Luminous Galaxy IRAS 09104+4109. *S. G. Kleinmann, Donald Hamilton, W. C. Keel, C. G. Wynn-Williams, S. A. Eales, E. E. Becklin, & K. D. Kuntz.* 328, 161, 63-F11 (1988)

The Radio Properties of Galaxies with High Far-Infrared Luminosities. *S. A. Eales, C. G. Wynn-Williams, & C. A. Beichman.* 328, 530, 68-G9 (1988)

Cold Dust in Galaxies. *S. A. Eales, C. G. Wynn-Williams, & W. D. Duncan.* 339, 859, 62-D7 (1989)

The Subarcsecond Infrared Structures at the Centers of Infrared-luminous Galaxies. *S. A. Eales, E. E. Becklin, K.-W. Hodapp, D. A. Simons, & C. G. Wynn-Williams.* 365, 478, 214-A12 (1990)

EALES, STEPHEN A. A Reevaluation of the Infrared-Radio Correlation for Spiral Galaxies. *Nicholas A. Devereux & Stephen A. Eales.* 340, 708, 77-C1 (1989)

EARL, J. A. Cosmic-Ray Viscosity. *J. A. Earl, J. R. Jokipii, & G. Morfill.* 331, L91, 121-E7 (1988)

EARL, JAMES A. The Effect of Dispersion upon Charged Particle Transport in Random Magnetic Fields. *James A. Earl.* 343, 936, 130-F10 (1989)

EASTMAN, RONALD G. Model Atmospheres for SN 1987A and the Distance to the Large Magellanic Cloud. *Ronald G. Eastman & Robert P. Kirshner.* 347, 771, 193-A3 (1989)

EATON, JOEL A. The Outer Atmospheres of the Coolest M Giants: Ultraviolet Spectra of ρ Persei, 2 Centauri, g Herculis, θ Apodis, and R Lyrae. *Joel A. Eaton & Hollis R. Johnson.* 325, 355, 23-B4 (1988)

The Atmospheric Eclipse of 31 Cygni in the Ultraviolet. *Joel A. Eaton.* 333, 288, 141-C4 (1988)

Stratification of the Extended Atmosphere of the Wolf-Rayet Component of V444 Cygni: Erratum. *Joel A. Eaton, A. M. Cherepashchuk, & Kh. F. Khaliullin.* 334, 1076, 168-D10 (1988) (Orig. paper in 297, 266, 103-A3 (1985))

Chromospheric Variability of M Giant Semiregular Variables. *Joel A. Eaton, Hollis R. Johnson, & Robert R. Cadmus, Jr.* 364, 259, 197-C4 (1990)

EBBETS, DENNIS C. Scattered Light in the Echelle Modes of the Goddard High-Resolution Spectrograph Aboard the *Hubble Space Telescope*. I. Analysis of Prelaunch Calibration Data. *Jason A. Cardelli, Dennis C. Ebbets, & Blair D. Savage.* 365, 789, 218-B1 (1990)

EBERHARD, C. D. Accelerated Decay of $^{180}Ta^{m}$ and ^{176}Lu in Stellar Interiors through (γ,γ') Reactions. *J. J. Carroll, J. A. Anderson, J. W. Glesener, C. D. Eberhard, & D. B. Collins.* 344, 454, 138-E8 (1989)

EBISAWA, K. Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)

EBISUZAKI, T. Shot Noise Cross-Correlation Functions and Cross Spectra: Implications for Models of QPO X-Ray Sources. *N. Shibazaki, R. F. Elsner, R. W. Bussard, T. Ebisuzaki, & M. C. Weisskopf.* 331, 247, 108-G2 (1988)

EBISUZAKI, TOSHIKAZU. X-Ray Spectra of Bursting Neutron Stars and the Color Temperature versus Luminosity Diagram. *Toshikazu Ebisuzaki & Ken'ichi Nomoto.* 305, L67, 80-D4 (1986)

The Effect of Mixing of the Ejecta on the Hard X-Ray Emissions from SN 1987A. *Toshikazu Ebisuzaki & Noriaki Shibazaki.* 327, L5, 53-A7 (1988)

The Effects of Mixing of the Ejecta on the Gamma-Ray Lines from SN 1987A. *Noriaki Shibazaki & Toshikazu Ebisuzaki.* 327, L9, 53-A11 (1988)

The Difference in Hydrogen Abundance between Two Classes of Type I X-Ray Bursts. *Toshikazu Ebisuzaki & Norio Nakamura.* 328, 251, 64-F9 (1988)

X-Ray and Gamma-Ray Emissions Expected from Supernova 1987A. *Toshikazu Ebisuzaki & Noriaki Shibazaki.* 328, 699, 70-F9 (1988)

Gamma-Ray Lines Produced by Low-Energy Cosmic Rays in SN 1987A. *Toshikazu Ebisuzaki, Yoshiyuki Takahashi, & Noriaki Shibazaki.* 340, 950, 80-B9 (1989)

Rayleigh-Taylor Instability and Mixing in SN 1987A. *Toshikazu Ebisuzaki, Toshikazu Shigeyama, & Ken'ichi Nomoto.* 344, L65, 148-C5 (1989)

EBNETTER, K. A. Depolarization Silhouettes and the Filamentary Structure in the Radio Source Fornax A. *E. B. Fomalont, K. A. Ebnetter, W. J. M. van Breugel, & R. D. Ekers.* 346, L17, 173-B11 (1989)

EBSTEIN, STEVEN M. Speckle Imaging of NGC 1068 and NGC 4151 in the [O III] 5007 Å Line and Nearby Continuum. *Steven M. Ebstein, N. P. Carleton, & Costas Papaliolios.* 336, 103, 2-C4 (1989)

ECKART, A. 1928+738: A Superluminal Source with Large-Scale Structure. *K. J. Johnston, R. S. Simon, A. Eckart, P. Biermann, C. Schalinski, A. Witzel, & R. G. Strom.* 313, L85, 27-D11 (1987)

Warm Gas and Spatial Variations of Molecular Excitation in the Nuclear Region of IC 342. *A. Eckart, D. Downes, R. Genzel, A. I. Harris, D. T. Jaffe, & W. Wild.* 348, 434, 8-A3 (1990)

Observations of CO Isotopic Emission and the Far-Infrared Continuum of Centaurus A. *A. Eckart, M. Cameron, H. Rothermel, W. Wild, H. Zinnecker, G. Rydbeck, M. Olberg, & T. Wiklind.* 363, 451, 189-F11 (1990)

First Images of Water Vapor Masers in the Galaxy M33. *L. J. Greenhill, J. M. Moran, M. J. Reid, C. R. Gwinn, K. M. Menten, A. Eckart, & H. Hirabayashi.* 364, 513, 202-E1 (1990)

Molecular Absorption Lines toward the Nucleus of Centaurus A. *A. Eckart, M. Cameron, R. Genzel, J. M. Jackson, H. Rothermel, J. Stutzki, G. Rydbeck, & T. Wiklind.* 365, 522, 214-F7 (1990)

ECKART, ANDREAS. High-Resolution Radio Observations of the Most Luminous Quasar. *Helmut Kühr, John T. Stocke, Peter A. Strittmatter, Norbert Bartel, Andreas Eckart, Cornelius Schalinski, Arno Witzel, & Peter Biermann.* 302, 52, 28-E5 (1986)

The Hα Chromosphere of Alpha Orionis. *Jeremy C. Hebden, Andreas Eckart, & E. Keith Hege.* 314, 690, 37-B10 (1987)

EDELSON, R. A. Spectral Energy Distributions of Active Galactic Nuclei between 0.1 and 100 Microns. *R. A. Edelson & M. A. Malkan.* 308, 59, 108-F4 (1986)

Far-Infrared Properties of Optically Selected Quasars. *R. A. Edelson.* 309, L69, 131-D9 (1986)

Broad-Band Properties of the CfA Seyfert Galaxies. I. Radio Properties. *R. A. Edelson.* 313, 651, 24-A1 (1987)

Broad-Band Properties of the CfA Seyfert Galaxies. II. Infrared to Millimeter Properties. *R. A. Edelson, M. A. Malkan, & G. H. Rieke.* 321, 233, 124-G1 (1987)

Far-Infrared Variability in Active Galactic Nuclei. *R. A. Edelson & M. A. Malkan.* 323, 516, 160-B14 (1987)

The Discrete Correlation Function: A New Method for Analyzing Unevenly Sampled Variability Data. *R. A. Edelson & J. H. Krolik.* 333, 646, 147-C1 (1988)

The Mass Function of Seyfert 1 Nuclei. *P. Padovani, R. Burg, & R. A. Edelson.* 353, 438, 69-D10 (1990)

Broad-Band Properties of the CfA Seyfert Galaxies. III. Ultraviolet Variability. *R. A. Edelson, J. H. Krolik, & G. F. Pike.* 359, 86, 135-B9 (1990)

EDER, DAVID C. The Local Interstellar Medium. IV. The Line of Sight to θ Scorpii. *David C. Eder & Donald G. York.* 308, 232, 110-E11 (1986)

EDER, J. New OH Observations of the Supergiant IRC +10420. *B. M. Lewis, Yervant Terzian, & J. Eder.* 302, L23, 35-B10 (1986)

New OH/IR Stars from Color-selected IRAS Sources: 1612 MHz Observations. *J. Eder, B. M. Lewis, & Yervant Terzian.* 66, 183, 4-B1 (1988)

New OH/IR Stars from Color-selected IRAS Sources. II. An Unbiased 1612 MHz Survey. *B. M. Lewis, J. Eder, & Yervant Terzian.* 362, 634, 178-F1 (1990)

EDER, JO ANN. The Clustering of Dwarf Galaxies. *Jo Ann Eder, James M. Schombert, Avishai Dekel, & Augustus Oemler, Jr.* 340, 29, 67-C10 (1989)

EDGAR, B. KEVIN. Stellar Spiral Arms in Smooth-armed Galaxies. *Robert C. Kennicutt, Jr., & B. Kevin Edgar.* 300, 132, 2-D12 (1986)

Properties of H II Region Populations in Galaxies. II. The H II Region Luminosity Function. *Robert C. Kennicutt, Jr., B. Kevin Edgar, & Paul W. Hodge.* 337, 761, 28-D10 (1989)

EDGAR, RICHARD J. The Soft X-Ray Background as a Supernova Blast Wave Viewed from Inside: Solar Abundance Models. *Richard J. Edgar.* 308, 389, 112-C7 (1986)

Highly Ionized Atoms in Cooling Gas. *Richard J. Edgar & Roger A. Chevalier.* 310, L27, 138-C1 (1986)

Stability of Radiative Shocks with Time-dependent Cooling. *T. J. Gaetz, Richard J. Edgar, & Roger A. Chevalier.* 329, 927, 87-C3 (1988)

The Density Distribution of Refractory Elements Away from the Galactic Plane. *Richard J. Edgar & Blair D. Savage.* 340, 762, 78-A1 (1989)

The Distribution of Interstellar Al III Away from the Galactic Plane. *Blair D. Savage, Richard J. Edgar, & Athanassios Diplas.* 361, 107, 158-D1 (1990)

Molecules toward HD 62542: A High-Density, Peculiar Extinction Sight Line in the Gum Nebula Complex. *Jason A. Cardelli, Nicholas B. Suntzeff, Richard J. Edgar, & Blair D. Savage.* 362, 551, 177-E9 (1990)

EDVARDSSON, B. Spectroscopy of the Rapidly Rotating K Star HD 36705. *O. Vilhu, B. Gustafsson, & B. Edvardsson.* 320, 850, 119-B5 (1987)

EDWARDS, B. C. A Color Gradient in the Soft X-Ray Diffuse Background. *S. L. Snowden, J. H. M. M. Schmitt, & B. C. Edwards.* 364, 118, 195-D11 (1990)

EDWARDS, C. D. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R.*

Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura. 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

EDWARDS, P. G. A Search for Ultra–High-Energy Gamma Rays from Supernova 1987A. *D. Ciampa, D. J. Bird, R. W. Clay, P. G. Edwards, & R. J. Protheroe.* 326, L9, 38-B1 (1988)

Evidence for Ultra–High-Energy Gamma-Ray Emission from the Low-Mass X-Ray Binary 2A 1822–37.1. *D. Ciampa, R. W. Clay, & P. G. Edwards.* 346, 151, 168-A1 (1989)

EDWARDS, S. Extended Far-Infrared Emission Associated with Mass Outflows from Young Stars: L1551 IRS 5. *S. Edwards, S. E. Strom, R. L. Snell, T. H. Jarrett, C. A. Beichman, & K. M. Strom.* 307, L65, 107-C10 (1986)

Pre–Main-Sequence Disk Accretion in Z Canis Majoris. *L. Hartmann, S. J. Kenyon, R. Hewett, S. Edwards, K. M. Strom, S. E. Strom, & J. R. Stauffer.* 338, 1001, 46-C5 (1989)

EDWARDS, SUZAN. Forbidden Line and Hα Profiles in T Tauri Star Spectra: A Probe of Anisotropic Mass Outflows and Circumstellar Disks. *Suzan Edwards, Sylvie Cabrit, Stephen E. Strom, Ingeborg Heyer, Karen M. Strom, & E. Anderson.* 321, 473, 127-C10 (1987)

Forbidden-Line Emission and Infrared Excesses in T Tauri Stars: Evidence for Accretion-driven Mass Loss? *Sylvie Cabrit, Suzan Edwards, Stephen E. Strom, & Karen M. Strom.* 354, 687, 84-G3 (1990)

EFIMOV, YU. E. Neutrons and Gamma-Ray Emission on 1982 June 3: The Possibility of Fitting the Data on the Assumption of One Population of Accelerated Particles. *V. G. Guglenko, Yu. E. Efimov, G. E. Kocharov, G. A. Kovaltsov, N. Z. Mandzhavidze, M. M. Terekhov, & L. G. Kocharov.* 73, 209, 20-E9 (1990)

EFSTATHIOU, G. Cosmic Fluctuation Spectra with Large-Scale Power. *J. M. Bardeen, J. R. Bond, & G. Efstathiou.* 321, 28, 122-D1 (1987)

EFSTATHIOU, GEORGE. Clusters, Filaments, and Voids in a Universe Dominated by Cold Dark Matter. *Simon D. M. White, Carlos S. Frenk, Marc Davis, & George Efstathiou.* 313, 505, 22-C11 (1987)

Angular Momentum from Tidal Torques. *Joshua Barnes & George Efstathiou.* 319, 575, 101-C1 (1987)

The Formation of Dark Halos in a Universe Dominated by Cold Dark Matter. *Carlos S. Frenk, Simon D. M. White, Marc Davis, & George Efstathiou.* 327, 507, 54-C1 (1988)

Galaxy Clusters and the Amplitude of Primordial Fluctuations. *Carlos S. Frenk, Simon D. M. White, George Efstathiou, & Marc Davis.* 351, 10, 38-B11 (1990)

EGGLETON, P. P. A Phenomenological Triple Star Scenario for SS 433. *A. C. Fabian, P. P. Eggleton, P. Hut, & J. E. Pringle.* 305, 333, 70-F11 (1986)

The Distribution of Visual Binaries with Two Bright Components. *P. P. Eggleton, M. J. Fitchett, & C. A. Tout.* 347, 998, 196-A1 (1989)

The Distribution of Visual Binaries with Two Bright Components: Erratum. *P. P. Eggleton, M. J. Fitchett, & C. A. Tout.* 354, 387, 79-A10 (1990) (Orig. paper in 347, 998, 196-A1 (1989))

EGGLETON, PETER P. The Formation of Algols without Catastrophes. *Christopher A. Tout & Peter P. Eggleton.* 334, 357, 158-D9 (1988)

Constraints on Cataclysmic Variable Evolution from the Triple System 4 Draconis. *Peter P. Eggleton, Charles D. Bailyn, & Christopher A. Tout.* 345, 489, 155-B11 (1989)

EGGUM, G. E. Radiation-Hydrodynamic Calculation of Sub-Eddington Accretion Disks. *G. E. Eggum, F. V. Coroniti, & J. I. Katz.* 323, 634, 161-F1 (1987)

Radiation Hydrodynamic Calculation of Super-Eddington Accretion Disks. *G. E. Eggum, F. V. Coroniti, & J. I. Katz.* 330, 142, 91-E9 (1988)

EICH, CHRIS. Giant and Supergiant Stars with Degenerate Neutron Cores. *Chris Eich, Mark E. Zimmermann, Kip S. Thorne, & Anna N. Zytkow.* 346, 277, 169-E7 (1989)

EICHHORN, G. Gamma-Ray Observations of SN 1987A from Antarctica. *A. C. Rester, R. L. Coldwell, F. E. Dunnam, G. Eichhorn, J. I. Trombka, R. Starr, & G. P. Lasche.* 342, L71, 117-D1 (1989)

EICHHORN, HEINRICH. A General Explicit Solution of the Central Overlap Problem. *Heinrich Eichhorn.* 334, 465, 160-A1 (1988)

EICHHORN, HEINRICH K. An Improved Algorithm for the Determination of the System Parameters of a Visual Binary. *Heinrich K. Eichhorn & Yu-lin Xu.* 358, 575, 130-F3 (1990)

EICHLER, D. Thermal Afterglow from Transient Energy Release in Neutron Stars. *D. Eichler & A. F. Cheng.* 336, 360, 5-F3 (1989)

Late Evolution of Very Low Mass X-Ray Binaries Sustained by Radiation from Their Primaries. *M. Ruderman, J. Shaham, M. Tavani, & D. Eichler.* 343, 292, 121-G1 (1989)

EICHLER, DAVID. Distributed Reacceleration of Cosmic Rays. *Amri Wandel, David Eichler, John R. Letaw, Rein Silberberg, & C. H. Tsao.* 316, 676, 59-D13 (1987)

Very High Energy Gamma-Ray Spectroscopy. *David Eichler & James H. Adams, Jr.* 317, 551, 70-A1 (1987)

Magnetic Field Stability of Neutron Stars. *Zhengzhi Wang & David Eichler.* 324, 966, 14-B5 (1988)

Energized Winds. *David Eichler & Yuan-Kuen Ko.* 328, 179, 64-A2 (1988)

Magnetic Field Stability of Neutron Stars: Erratum. *Zhengzhi Wang & David Eichler.* 330, 1036, 104-A1 (1988) (Orig. paper in 324, 966, 14-B5 (1988))

On Black Widow Evolutionary Scenarios for Binary Neutron Stars. *David Eichler & Amir Levinson.* 335, L67, 185-D1 (1988)

On the Explosive Origin Hypothesis for Present-Day Cosmic Voids and Peculiar Velocities. *Biman B. Nath & David Eichler.* 337, 1, 17-A9 (1989)

A Study of the Phase Velocity and Growth of Waves at Parallel Shocks. *Ralph B. Fiorito, David Eichler, & Donald C. Ellison.* 364, 582, 203-D1 (1990)

EILEK, J. A. Faraday Rotation from Abell Clusters of Galaxies. *G. S. Hennessy, F. N. Owen, & J. A. Eilek.* 347, 144, 184-A1 (1989)

EILEK, JEAN A. A Study of the Stochastic Energization of Charged Particles with and without Synchrotron Energy Loss. *Joseph E. Borovsky & Jean A. Eilek.* 308, 929, 119-B8 (1986)

The Collective Emission of Electromagnetic Waves from Astrophysical Jets: Luminosity Gaps, BL Lacertae Objects, and Efficient Energy Transport. *D. N. Baker, Joseph E. Borovsky, Gregory Benford, & Jean A. Eilek.* 326, 110, 33-C7 (1988)

The Energetics and Evolution of Jet-fed Radio Sources. *Jean A. Eilek & Steven N. Shore.* 342, 187, 103-C2 (1989)

Radio Emission from Young Supernova Remnants: Effects of an Inhomogeneous Circumstellar Medium. *John R. Dickel, Jean A. Eilek, Eric M. Jones, & Stephen P. Reynolds.* 70, 497, 25-F5 (1989)

Filaments in the Radio Lobes of M87. *Dean C. Hines, Frazer N. Owen, & Jean A. Eilek.* 347, 713, 192-B11 (1989)

VLA Observations of Wide-Angle Tailed Radio Sources. *Aileen A. O'Donoghue, Frazer N. Owen, & Jean A. Eilek.* 72, 75, 2-F9 (1990)

Detection of Large Faraday Rotation in the Inner 2 Kiloparsecs of M87. *Frazer N. Owen, Jean A. Eilek, & William C. Keel.* 362, 449, 176-B1 (1990)

EINASTO, JAAN. Multifractal Description of the Large-Scale Structure of the Universe. *Bernard J. T. Jones, Vicent J. Martínez, Enn Saar, & Jaan Einasto.* 332, L1, 129-B5 (1988)

EINAUDI, G. Alfvén Wave Dissipation in the Solar Atmosphere. *G. Einaudi & Yung Mok.* 319, 520, 99-A1 (1987)

Boundary Effects on the Magnetohydrodynamic Stability of a Resistive Plasma. *M. Velli, G. Einaudi, & A. W. Hood.* 350, 419, 30-B8 (1990)

Ideal Kink Instabilities in Line-tied Coronal Loops: Growth Rates and Geometrical Properties. *M. Velli, G. Einaudi, & A. W. Hood.* 350, 428, 30-C3 (1990)

Comments on Compressible Effects on Alfvén Normal Modes in Nonuniform Plasmas. *Y. Mok & G. Einaudi.* 351, 296, 41-F11 (1990)

EINAUDI, GIORGIO. Nonresonant Resistive Dissipation of Incompressible Magnetohydrodynamic Waves. *Francesco Califano, Claudio Chiuderi, & Giorgio Einaudi.* 365, 757, 217-F5 (1990)

EIROA, CARLOS. Ultraviolet and Infrared Monitoring of FG Sagittae during 1982–1989: Evolutionary Status. *Benjamin Montesinos, Angelo Cassatella, Rosario González-Riestra, Telmo Fernández-Castro, Carlos Eiroa, & Jesús Jiménez-Fuensalida.* 363, 245, 185-B8 (1990)

EISENHAMER, J. D. Peculiar Velocities of cD Galaxies: MX Spectroscopy of Abell 1795. *John M. Hill, Paul Hintzen, W. R. Oegerle, W. Romanishin, M. P. Lesser, J. D. Eisenhamer, & D. J. Batuski.* 332, L23, 129-C13 (1988)

EISENHARDT, P. R. M. New Evidence for Galaxy Luminosity Evolution. *M. J. Lebofsky & P. R. M. Eisenhardt.* 300, 151, 2-F5 (1986)

EISENHARDT, PETER. Infrared Images of Distant 3C Radio Galaxies. *Peter Eisenhardt & Arati Chokshi.* 351, L9, 43-B1 (1990)

Extended Lyα Emission Associated with 3C 294. *Patrick J. McCarthy, Hyron Spinrad, Wil van Breugel, James Liebert, Mark Dickinson, S. Djorgovski, & Peter Eisenhardt.* 365, 487, 214-B9 (1990)

EISENHARDT, PETER R. M. Color Evolution in High-Redshift Galaxies. *Peter R. M. Eisenhardt & M. J. Lebofsky.* 316, 70, 50-F14 (1987)

EISENSTAEDT, J. Density Constraints on Local Inhomogeneity in Cosmology. *J. Eisenstaedt & N. O. Santos.* 337, 601, 26-E4 (1989)

EITTER, J. J. E. W. Fick Observatory Stellar Radial Velocity Measurements. I. 1976–1984. *W. I. Beavers & J. J. Eitter.* 62, 147, 33-E3 (1986)

EKERS, R. D. The Radio Galaxy IC 4296 (PKS 1333–22). I. Multifrequency Very Large Array Observations. *N. E. B. Killeen, G. V. Bicknell, & R. D. Ekers.* 302, 306, 31-D11 (1986)

H I Gas near the Giant Elliptical Galaxy NGC 4472. *R. Sancisi, N. Thonnard, & R. D. Ekers.* 315, L39, 45-D8 (1987)

The Thermally Confined Radio Source in NGC 1399. *N. E. B. Killeen, G. V. Bicknell, & R. D. Ekers.* 325, 180, 21-B1 (1988)

B2 1637+29, a Massive Radio Galaxy Probing a Poor but Gas-rich Group. *H. R. de Ruiter, P. Parma, R. Fanti, & R. D. Ekers.* 329, 225, 77-E3 (1988)

Radio Studies of the Galactic Center. I. The Sagittarius A Complex. *A. Pedlar, K. R. Anantharamaiah, R. D. Ekers, W. M. Goss, J. H. van Gorkom, U. J. Schwarz, & Jun-hui Zhao.* 342, 769, 112-A1 (1989)

Depolarization Silhouettes and the Filamentary Structure in the Radio Source Fornax A. *E. B. Fomalont, K. A. Ebnetter, W. J. M. van Breugel, & R. D. Ekers.* 346, L17, 173-B11 (1989)

ELBERT, J. W. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)

Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

EL EID, M. F. Nucleosynthesis in Neutron-rich Supernova Ejecta: Erratum. *D. Hartmann, S. E. Woosley, & M. F. El Eid.* 307, 414, 99-E10 (1986) (Orig. paper in 297, 837, 110-G1 (1985))

ELIAS, J. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

PW Vulpeculae: A Dust-poor DQ Herculis? *R. D. Gehrz, T. E. Harrison, E. P. Ney, K. Matthews, G. Neugebauer, J. Elias, G. L. Grasdalen, & J. A. Hackwell.* 329, 894, 86-G6 (1988)

ELIAS, J. H. Two Supergiants in the Large Magellanic Cloud with Thick Dust Shells. *J. H. Elias, Jay A. Frogel, & P. B. W. Schwering.* 302, 675, 38-A8 (1986)

Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

IRAS 00521–7054: An Unusually Warm Galaxy. *Jay A. Frogel & J. H. Elias.* 313, L53, 27-B10 (1987)

The *IRAS* Bright Galaxy Sample. II. The Sample and Luminosity Function. *B. T. Soifer, D. B. Sanders, B. F. Madore, G. Neugebauer, G. E. Danielson, J. H. Elias, Carol J. Lonsdale, & W. L. Rice.* 320, 238, 110-F7 (1987)

Red Variables in Globular Clusters: Their Classification and Evidence for Mass Loss. *Jay A. Frogel & J. H. Elias.* 324, 823, 12-D6 (1988)

Ultraluminous Infrared Galaxies and the Origin of Quasars. *D. B. Sanders, B. T. Soifer, J. H. Elias, B. F. Madore, K. Matthews, G. Neugebauer, & N. Z. Scoville.* 325, 74, 19-G6 (1988)

Warm Ultraluminous Galaxies in the *IRAS* Survey: The Transition from Galaxy to Quasar? *D. B. Sanders, B. T. Soifer, J. H. Elias, G. Neugebauer, & K. Matthews.* 328, L35, 74-D1 (1988)

Line Identifications in the Infrared Spectrum of SN 1987A. *J. H. Elias, B. Gregory, M. M. Phillips, R. E. Williams, James R. Graham, W. P. S. Meikle, R. D. Schwartz, & B. Wilking.* 331, L9, 114-B1 (1988)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

ELIAS, JONATHAN. The Long-Period Variable Stars of M33. *Jeremy Mould, James R. Graham, Keith Matthews, Gerry Neugebauer, & Jonathan Elias.* 349, 503, 21-E5 (1990)

ELIAS, NICHOLAS M., II. Centimeter Observations of Six Eclipsing "Serpentid" Binary Stars. *Nicholas M. Elias II.* 352, 300, 53-E8 (1990)

ELIPE, ANTONIO. Application of the Fourier Transform for Solving and Improving Spectroscopic Binary Star Orbits. *Alberto Abad & Antonio Elipe.* 302, 764, 39-A11 (1986)

ELITZUR, M. Broad-Line Variability in NGC 5548. *T. Kallman & M. Elitzur.* 328, 523, 68-G1 (1988)

R Aquarii: Evidence for a Two-sided Radio Jet and a Circumbinary SiO Maser. *M. Kafatos, J. M. Hollis, F. Yusef-Zadeh, A. G. Michalitsianos, & M. Elitzur.* 346, 991, 179-D9 (1989)

ELITZUR, MOSHE. Radiation Pressure and Emission Clouds around Active Galactic Nuclei. *Moshe Elitzur & Gary J. Ferland.* 305, 35, 67-C13 (1986)

Line Formation in the Hot Spot Region of Cataclysmic Variable Accretion Disks. *Moshe Elitzur, John T. Clarke, & T. R. Kallman.* 324, 405, 5-F1 (1988)

On the Onset of Mass Loss in Late-Type Stars. *Moshe Elitzur, Jeffery A. Brown, & Hollis R. Johnson.* 341, L95, 100-C1 (1989)

An Escape Probability Treatment of Line Fluorescence and Overlap in Astrophysics. *Philip Lockett & Moshe Elitzur.* 344, 525, 139-E5 (1989)

H_2O Masers in Star-forming Regions. *Moshe Elitzur, David J. Hollenbach, & Christopher F. McKee.* 346, 983, 179-D1 (1989)

Two-Temperature Pumping of H_2O Masers. *Moshe Elitzur & Joseph B. Fuqua.* 347, L35, 189-E1 (1989)

Maser Line Widths. *Moshe Elitzur.* 350, L17, 31-C1 (1990)

Radiative Transfer in Astronomical Masers. I. The Linear Maser. *Moshe Elitzur.* 363, 628, 192-A5 (1990)

Radiative Transfer in Astronomical Masers. II. Three-dimensional Masers. *Moshe Elitzur.* 363, 638, 192-B1 (1990)

ELLDÉR, JOEL. Variations in the HCN/HNC Abundance Ratio in the Orion Molecular Cloud. *Paul F. Goldsmith, William M. Irvine, Åke Hjalmarson, & Joel Elldér.* 310, 383, 136-B10 (1986)

ELLINGER, Y. A Tentative Interpretation for the Difference in the Abundance Ratios HCO^+/CO and HCS^+/CS in Interstellar Space. *D. Talbi, A. P. Hickman, F. Pauzat, Y. Ellinger, & G. Berthier.* 339, 231, 52-G1 (1989)

ELLIS, G. F. R. Note on "Symmetry Changes in Friedmann Cosmologies" by S. S. Bayin. *G. F. R. Ellis.* 314, 1, 28-A7 (1987)

An Explosive Origin of Bubbles in the Distribution of Galaxies? *G. F. R. Ellis & A. P. Fairall.* 327, 34, 47-D1 (1988)

Integral Constraints on Perturbations of Robertson-Walker Cosmologies. *G. F. R. Ellis & M. J. Jaklitsch.* 346, 601, 175-A1 (1989)

Density Waves in Cosmology. *G. F. R. Ellis, C. Hellaby, & D. R. Matravers.* 364, 400, 200-G12 (1990)

ELLIS, G. R. A. Natural Radio Lasing at Jupiter. *W. Calvert, H. Leblanc, & G. R. A. Ellis.* 335, 976, 183-D6 (1988)

ELLIS, GEORGE F. R. Relativistic Effects in Superluminal Jets and Neutron Star Winds. *Marek A. Abramowicz, George F. R. Ellis, & Antonio Lanza.* 361, 470, 164-A1 (1990)

ELLIS, H. B., JR. Far-Infrared Image Restoration Analysis of the Protostellar Cluster in S140. *D. F. Lester, P. M. Harvey, M. Joy, & H. B. Ellis, Jr.* 309, 80, 120-G11 (1986)

Far-Infrared Continuum Emission from the Nucleus, Starburst, and Extended Spiral Arms of NGC 1068. *D. F. Lester, M. Joy, P. M. Harvey, H. B. Ellis, Jr., & P. S. Parmar.* 321, 755, 132-G1 (1987)

The Genesis of the Ring Galaxy Arp 144 (NGC 7828/29). *Marshall Joy, H. B. Ellis, Jr., E. V. Tollestrup, D. Brock, J. L. Higdon, & P. M. Harvey.* 330, L29, 96-E10 (1988)

High Spatial Resolution Mapping of the Cepheus A Region at 20, 50, and 100 Microns. *H. B. Ellis, Jr., D. F. Lester, P. M. Harvey, M. Joy, C. M. Telesco, R. Decher, & M. W. Werner.* 365, 287, 210-A6 (1990)

ELLIS, H. BENTON. The Origin of the Infrared Luminosity in Centaurus A. *Marshall Joy, Daniel F. Lester, Paul M. Harvey, & H. Benton Ellis.* 326, 662, 40-G11 (1988)

ELLIS, H. BENTON, JR. Far-Infrared Observations of a Luminous Dust-shrouded Source in the Nucleus of NGC 4945. *David Brock, Marshall Joy, Daniel F. Lester, Paul M. Harvey, & H. Benton Ellis, Jr.* 329, 208, 77-C9 (1988)

ELLISON, B. N. CO Emission from Centaurus A. *T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, R. J. Howard, C. R. Masson, D. B. Sanders, B. Veidt, & K. Young.* 322, L73, 152-B8 (1987)

CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)

ELLISON, DONALD C. The Central Engine of Quasars and Active Galactic Nuclei: Hadronic Interactions of Shock-accelerated Relativistic Protons. *Demosthenes Kazanas & Donald C. Ellison.* 304, 178, 55-G4 (1986)

Diffusive Shock Acceleration: Comparison of a Unified Shock Model to Bow Shock Observations. *Donald C. Ellison & Eberhard Möbius.* 318, 474, 84-B6 (1987)

Neutrino Transport during the Core Bounce Phase of a Type II Supernova Explosion. *Peter M. Giovanoni, Donald C. Ellison, & Stephen W. Bruenn.* 342, 416, 105-G12 (1989)

Particle Injection and Acceleration at Earth's Bow Shock: Comparison of Upstream and Downstream Events. *Donald C. Ellison, Eberhard Möbius, & Götz Paschmann.* 352, 376, 54-E5 (1990)

First-Order Fermi Particle Acceleration by Relativistic Shocks. *Donald C. Ellison, Frank C. Jones, & Stephen P. Reynolds.* 360, 702, 154-G9 (1990)

A Study of the Phase Velocity and Growth of Waves at Parallel Shocks. *Ralph B. Fiorito, David Eichler, & Donald C. Ellison.* 364, 582, 203-D1 (1990)

ELLMAN, NANCY E. Synthesis Mapping of a Solar Type I Storm Simultaneously at 90 and 20 Centimeters with the VLA. *Shadia Rifai Habbal, Nancy E. Ellman, & Raymond Gonzalez.* 342, 594, 108-A10 (1989)

ELMEGREEN, B. G. The Largest Molecular Cloud Complexes in the First Galactic Quadrant. *T. M. Dame, B. G. Elmegreen, R. S. Cohen, & P. Thaddeus.* 305, 892, 78-F1 (1986)

ELMEGREEN, BRUCE G. Do Density Waves Trigger Star Formation? *Bruce G. Elmegreen & Debra Meloy Elmegreen.* 311, 554, 154-A1 (1986)

Supercloud Formation by Nonaxisymmetric Gravitational Instabilities in Sheared Magnetic Galaxy Disks. *Bruce G. Elmegreen.* 312, 626, 9-F10 (1987)

Arm Classifications for Spiral Galaxies. *Debra Meloy Elmegreen & Bruce G. Elmegreen.* 314, 3, 28-A10 (1987)

H I Superclouds in the Inner Galaxy. *Bruce G. Elmegreen & Debra Meloy Elmegreen.* 320, 182, 110-B1 (1987)

Molecules in Galaxies. V. CO Observations of Flocculent and Grand-Design Spirals. *Antony A. Stark, Bruce G. Elmegreen, & Don Chance.* 322, 64, 138-F1 (1987)

Magnetic Cloud Collision Fronts. *Bruce G. Elmegreen.* 326, 616, 40-D1 (1988)

A Pressure and Metallicity Dependence for Molecular Cloud Correlations and the Calibration of Mass. *Bruce G. Elmegreen.* 338, 178, 35-C1 (1989)

On the Gravitational Collapse of Decelerating Shocked Layers in OB Associations. *Bruce G. Elmegreen.* 340, 786, 78-C1 (1989)

On the Relative Frequency of Flocculent and Grand Design Spiral Structures in Barred Galaxies. *Bruce G. Elmegreen & Debra Meloy Elmegreen.* 342, 677, 111-A1 (1989)

Gravitational Instabilities in Shearing, Magnetic Galaxies with a Cloudy Interstellar Gas. *Bruce G. Elmegreen.* 342, L67, 117-C11 (1989)

Spiral-Arm Amplitude Variations and Pattern Speeds in the Grand Design Galaxies M51, M81, and M100. *Bruce G. Elmegreen, Debra Meloy Elmegreen, & Philip E. Seiden.* 343, 602, 126-F1 (1989)

Molecular Cloud Formation by Gravitational Instabilities in a Clumpy Interstellar Medium. *Bruce G. Elmegreen.* 344, 306, 136-G4 (1989)

Molecular Cloud Formation by Gravitational Instabilities in a Clumpy Interstellar Medium: Erratum. *Bruce G. Elmegreen.* 347, 561, 188-G12 (1989) (Orig. paper in 344, 306, 136-G4 (1989))

A Revised Mass Spectrum for the Random Collisional Buildup Model of Molecular Cloud Formation. *Bruce G. Elmegreen.* 347, 859, 194-A13 (1989)

Optical Tracers of Spiral Wave Resonances in Galaxies: Applications to NGC 1566. *Bruce G. Elmegreen & Debra Meloy Elmegreen.* 355, 52, 87-F1 (1990)

A Computer-generated Galaxy Model with Long-lived Two-armed Spiral Structure. *Magnus Thomasson, Bruce G. Elmegreen, Karl Johan Donner, & Björn Sundelius.* 356, L9, 103-C1 (1990)

A Comparison of Cloud Formation Rates in the Gravitational Instability and Random Collisional Buildup Models. *Bruce G. Elmegreen.* 357, 125, 112-E10 (1990)

A Wavelike Origin for Clumpy Structure and Broad Line Wings in Molecular Clouds. *Bruce G. Elmegreen.* 361, L77, 168-F1 (1990)

Evidence for Small Halos in Grand Design Spiral Galaxies. *Debra Meloy Elmegreen & Bruce G. Elmegreen.* 364, 412, 201-B1 (1990)

Statistical Evidence That Galaxy Companions Trigger Bars and Change the Spiral Hubble Type. *Debra Meloy Elmegreen, Bruce G. Elmegreen, & Andrew D. Bellin.* 364, 415, 201-B6 (1990)

ELMEGREEN, DEBRA M. A Comparison of Spiral Tracers in M81. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 345, 674, 159-B1 (1989)

A Comparison of Spiral Tracers in M81: Erratum. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 354, 387, 79-A10 (1990) (Orig. paper in 345, 674, 159-B1 (1989))

ELMEGREEN, DEBRA MELOY. Do Density Waves Trigger Star Formation? *Bruce G. Elmegreen & Debra Meloy Elmegreen.* 311, 554, 154-A1 (1986)

Arm Classifications for Spiral Galaxies. *Debra Meloy Elmegreen & Bruce G. Elmegreen.* 314, 3, 28-A10 (1987)

H I Superclouds in the Inner Galaxy. *Bruce G. Elmegreen & Debra Meloy Elmegreen.* 320, 182, 110-B1 (1987)

A Search for Near-Infrared Counterparts of IRAS Embedded Sources in the M17 SW Giant Molecular Cloud. *Debra Meloy Elmegreen, James Phillips, Kelly Beck, Holly Thomas, & Jamie Howard.* 335, 803, 181-D9 (1988)

On the Relative Frequency of Flocculent and Grand Design Spiral Structures in Barred Galaxies. *Bruce G. Elmegreen & Debra Meloy Elmegreen.* 342, 677, 111-A1 (1989)

Spiral-Arm Amplitude Variations and Pattern Speeds in the Grand Design Galaxies M51, M81, and M100. *Bruce G. Elmegreen, Debra Meloy Elmegreen, & Philip E. Seiden.* 343, 602, 126-F1 (1989)

The Dust Lanes in M81: Tracers of the Molecular Gas? *Michele Kaufman, Debra Meloy Elmegreen, & Frank N. Bash.* 345, 697, 159-D1 (1989)

Optical Tracers of Spiral Wave Resonances in Galaxies: Applications to NGC 1566. *Bruce G. Elmegreen & Debra Meloy Elmegreen.* 355, 52, 87-F1 (1990)

Evidence for Small Halos in Grand Design Spiral Galaxies. *Debra Meloy Elmegreen & Bruce G. Elmegreen.* 364, 412, 201-B1 (1990)

Statistical Evidence That Galaxy Companions Trigger Bars and Change the Spiral Hubble Type. *Debra Meloy Elmegreen, Bruce G. Elmegreen, & Andrew D. Bellin.* 364, 415, 201-B6 (1990)

ELSNER, R. F. Accretion onto Neutron Stars with the Presence of a Double Layer. *A. C. Williams, M. C. Weisskopf, R. F. Elsner, W. Darbro, & P. G. Sutherland.* 305, 759, 77-C1 (1986)

Observations of Quasi-periodic Oscillations from GX 5–1 and Cygnus X-2 with the *Einstein* (*HEAO 2*) Observatory. *R. F. Elsner, M. C. Weisskopf, W. Darbro, B. D. Ramsey, A. C. Williams, P. G. Sutherland, & J. E. Grindlay.* 308, 655, 116-B7 (1986)

Coherence Effects on Quasi-periodic Oscillations from Galactic X-Ray Sources. *R. F. Elsner, N. Shibazaki, & M. C. Weisskopf.* 320, 527, 115-C8 (1987)

The Effect of Decay of the Amplitude of Oscillation on Random Process Models for QPO X-Ray Stars. *N. Shibazaki, R. F. Elsner, & M. C. Weisskopf.* 322, 831, 149-A1 (1987)

The Effect of a Hot, Spherical Scattering Cloud on Quasi-periodic Oscillation Behavior. *R. W. Bussard, M. C. Weisskopf, R. F. Elsner, & N. Shibazaki.* 327, 284, 50-B6 (1988)

Moment Constraints on Physical Models for Quasi-periodic Oscillations from Galactic X-Ray Sources. *R. F. Elsner, N. Shibazaki, & M. C. Weisskopf.* 327, 742, 56-F10 (1988)

Shot Noise Cross-Correlation Functions and Cross Spectra: Implications for Models of QPO X-Ray Sources. *N. Shibazaki, R. F. Elsner, R. W. Bussard, T. Ebisuzaki, & M. C. Weisskopf.* 331, 247, 108-G2 (1988)

ELSON, REBECCA A. W. The Structure of Young Star Clusters in the Large Magellanic Cloud. *Rebecca A. W. Elson, S. Michael Fall, & Kenneth C. Freeman.* 323, 54, 153-F1 (1987)

The Globular Cluster System of M31. *Rebecca A. W. Elson & René A. M. Walterbos.* 333, 594, 146-E3 (1988)

The Stellar Content of Rich Young Clusters in the Large Magellanic Cloud. *Rebecca A. W. Elson, S. Michael Fall, & Kenneth C. Freeman.* 336, 734, 11-E2 (1989)

The Internal Velocity Dispersions of Three Young Star Clusters in the Large Magellanic Cloud. *Robert H. Lupton, S. Michael Fall, Kenneth C. Freeman, & Rebecca A. W. Elson.* 347, 201, 184-E8 (1989)

Core Expansion in Young Clusters in the Large Magellanic Cloud. *Rebecca A. W. Elson, Kenneth C. Freeman, & Tod R. Lauer.* 347, L69, 199-C9 (1989)

ELSTON, R. Deep 2 Micron Imaging of the Sky: Evidence for a New Extragalactic Population. *R. Elston, G. H. Rieke, & M. J. Rieke.* 331, L77, 121-C13 (1988)

Observations of Deep 2 Micron Survey Galaxies: Primeval Galaxy Candidates. *R. Elston, M. J. Rieke, & G. H. Rieke.* 341, 80, 85-A4 (1989)

ELSTON, RICHARD. The Optical and Near-Infrared Polarization Properties of the OVV Quasar 3C 345. *Paul S. Smith, Thomas J. Balonek, Paul A. Heckert, & Richard Elston.* 305, 484, 72-D7 (1986)

Optical and Near-Infrared Observations of BL Lacertae Objects and Active Quasars. *Paul S. Smith, Thomas J. Balonek, Richard Elston, & Paul A. Heckert.* 64, 459, 22-G9 (1987)

Evidence for Accretion Disks in Highly Polarized Quasars. *Paul S. Smith, Richard Elston, Graham Berriman, Richard G. Allen, & Thomas J. Balonek.* 326, L39, 46-A9 (1988)

Spatially Resolved Near-Infrared Spectroscopy of NGC 6240. *Richard Elston & Philip Maloney.* 357, 91, 112-B11 (1990)

ELSWORTH, Y. P. The 160 Minute Solar Oscillation: An Artifact? *Y. P. Elsworth, S. M. Jefferies, C. P. McLeod, R. New, P. L. Pallé, H. B. van der Raay, C. Régulo, & T. Roca Cortés.* 338, 557, 39-F7 (1989)

ELVIS, M. The Highly Obscured Nucleus of 3C 219. *G. Fabbiano, S. P. Willner, N. P. Carleton, & M. Elvis.* 304, L37, 66-B1 (1986)

ELVIS, MARTIN. X-Ray Spectra of PG Quasars. I. The Continuum from X-Rays to the Infrared. *Martin Elvis, Richard F. Green, Jill Bechtold, Maarten Schmidt, G. Neugebauer, B. T. Soifer, K. Matthews, & G. Fabbiano.* 310, 291, 135-B13 (1986)

X-Ray Spectra of PG Quasars. II. The X-Ray–Ultraviolet Excess of PG 1211+143. *Jill Bechtold, Bozena Czerny, Martin Elvis, G. Fabbiano, & Richard F. Green.* 314, 699, 37-C5 (1987)

The Continuum of Type 1 Seyfert Galaxies. I. A Single Form Modified by the Effects of Dust. *Martin Ward, Martin Elvis, G. Fabbiano, N. P. Carleton, S. P. Willner, & A. Lawrence.* 315, 74, 40-F12 (1987)

The Continuum of Type 1 Seyfert Galaxies. II. Separating Thermal and Nonthermal Components. *N. P. Carleton, Martin Elvis, G. Fabbiano, S. P. Willner, A. Lawrence, & Martin Ward.* 318, 595, 87-D6 (1987)

Constraints on Quasar Accretion Disks from the Optical/Ultraviolet/Soft X-Ray Big Bump. *Bozena Czerny & Martin Elvis.* 321, 305, 125-E5 (1987)

Is Optical Fe II Emission Related to the Soft X-Ray Properties of Quasars? *Belinda J. Wilkes, Martin Elvis, & Ian McHardy.* 321, L23, 129-C12 (1987)

Quasar Energy Distributions. I. Soft X-Ray Spectra of Quasars. *Belinda J. Wilkes & Martin Elvis.* 323, 243, 155-F5 (1987)

Hard X-Ray Emission from a Type 2 Seyfert Galaxy (NGC 1068). *Martin Elvis & A. Lawrence.* 331, 161, 107-G3 (1988)

The Submillimeter Spectral Break in Seyfert Galaxies. *G. Engargiola, D. A. Harper, Martin Elvis, & S. P. Willner.* 332, L19, 129-C9 (1988)

Weak Bump Quasars. *Jonathan C. McDowell, Martin Elvis, Belinda J. Wilkes, Steven P. Willner, M. S. Oey, Elisha Polomski, Jill Bechtold, & Richard F. Green.* 345, L13, 157-B5 (1989)

A Highly X-Ray–Variable Active Galactic Nucleus near M101: A Microlensing Candidate. *G. Trinchieri, G. Fabbiano, & Martin Elvis.* 356, 430, 105-E10 (1990)

Extended X-Ray Emission in Nearby Seyfert Galaxies. *Martin Elvis, C. Fassnacht, A. S. Wilson, & U. Briel.* 361, 459, 163-G1 (1990)

ELVIUS, A. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V. Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)

EMERSON, D. T. 223 GHz VLBI Observations of 3C 273. *S. Padin, D. P. Woody, M. W. Hodges, A. E. E. Rogers, D. T. Emerson, P. R. Jewell, J. Lamb, A. Perfetto, & M. C. H. Wright.* 360, L11, 149-C2 (1990)

EMERSON, J. P. IRAS 18333–2357: An Unusual Source in M22. *F. C. Gillett, G. Neugebauer, J. P. Emerson, & W. L. Rice.* 300, 722, 11-A10 (1986)

Candidate Solar-Type Protostars in Nearby Molecular Cloud Cores. *C. A. Beichman, P. C. Myers, J. P. Emerson, S. Harris, R. Mathieu, P. J. Benson, & R. E. Jennings.* 307, 337, 98-F13 (1986)

Near-Infrared and Optical Observations of IRAS Sources in and near Dense Cores. *P. C. Myers, Gary A. Fuller, R. D. Mathieu, C. A. Beichman, P. J. Benson, R. E. Schild, & J. P. Emerson.* 319, 340, 96-F5 (1987)

A Reexamination of Luminosity Sources in T Tauri Stars. I. Taurus-Auriga. *Martin Cohen, J. P. Emerson, & C. A. Beichman.* 339, 455, 55-E11 (1989)

EMERSON, JAMES P. Submillimeter Photometry and Disk Masses of T Tauri Disk Systems. *Fred C. Adams, James P. Emerson, & Gary A. Fuller.* 357, 606, 120-B5 (1990)

EMMERING, ROBERT T. Are Pulsars Born as Slow Rotators? *Roger A. Chevalier & Robert T. Emmering.* 304, 140, 55-D8 (1986)

Shocked Relativistic Magnetohydrodynamic Flows with Application to Pulsar Winds. *Robert T. Emmering & Roger A. Chevalier.* 321, 334, 125-G10 (1987)

The Interstellar Light Echoes around SN 1987A. *Roger A. Chevalier & Robert T. Emmering.* 331, L105, 121-F7 (1988)

Circumstellar Infrared and Scattered Light Echoes from SN 1987A. *Robert T. Emmering & Roger A. Chevalier.* 338, 388, 37-F10 (1989)

Illuminating a Red Supergiant Wind around SN 1987A. *Roger A. Chevalier & Robert T. Emmering.* 342, L75, 117-D5 (1989)

The Intrinsic Luminosity and Initial Period of Pulsars. *Robert T. Emmering & Roger A. Chevalier.* 345, 931, 162-B5 (1989)

A Refractive Model for Eclipsing Binary Radio Pulsars. *Robert T. Emmering & Richard A. London.* 363, 589, 191-E1 (1990)

EMSLIE, A. G. A New Quasi-thermal Trap Model for Solar Flare Hard X-Ray Bursts: An Electrostatic Trap Model. *D. S. Spicer & A. G. Emslie.* 330, 997, 103-E1 (1988)

EMSLIE, A. GORDON. A Self-consistent Interpretation of the Solar Flare Extreme-Ultraviolet to Hard X-Ray Ratio in Large Events. *T. N. LaRosa & A. Gordon Emslie.* 326, 997, 44-E2 (1988)

Analytic Limits on the Forms of Spectra Possible from Optically Thin Collisional Bremsstrahlung Source Models. *John C. Brown & A. Gordon Emslie.* 331, 554, 112-E4 (1988)

Self-similar Lagrangian Hydrodynamics of Beam-heated Solar Flare Atmospheres. *John C. Brown & A. Gordon Emslie.* 339, 1123, 65-D11 (1989)

Numerical Simulations of Impulsively Heated Solar Flares. *John T. Mariska, A. Gordon Emslie, & Peng Li.* 341, 1067, 98-D2 (1989)

Soft X-Ray Diagnostics of Electron-heated Solar Flare Atmospheres. *Peng Li, A. Gordon Emslie, & John T. Mariska.* 341, 1075, 98-D10 (1989)

ENGARGIOLA, G. The Submillimeter Spectral Break in Seyfert Galaxies. *G. Engargiola, D. A. Harper, Martin Elvis, & S. P. Willner.* 332, L19, 129-C9 (1988)

Far-Infrared and Submillimeter Photometric Mapping of Spiral Galaxies in the Virgo Cluster. *A. A. Stark, J. A. Davidson, S. Platt, D. A. Harper, R. Pernic, R. Loewenstein, G. Engargiola, & S. Casey.* 337, 650, 27-B1 (1989)

ENGARGIOLA, G. A. The Far-Infrared Polarization of the Orion Nebula. *D. P. Gonatas, G. A. Engargiola, R. H. Hildebrand, S. R. Platt, X. D. Wu, J. A. Davidson, G. Novak, D. K. Aitken, & C. Smith.* 357, 132, 112-F4 (1990)

ENGE, W. On the Charge State of Anomalous Oxygen. *K. Oschlies, R. Beaujean, & W. Enge.* 345, 776, 160-D1 (1989)

ENGELKE, CHARLES W. Smothered Pulsars and the Central Radio Sources in M81, M82, and the Galaxy. *Charles W. Engelke.* 325, 153, 20-G2 (1988)

ENGELMAN, ROLF, JR. Oscillator Strengths of the CN Red System: Erratum. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engelman, Jr., John G. Phillips, & Robert P. Hubbard.* 307, 414, 99-E10 (1986) (Orig. paper in 303, 892, 52-D8 (1986))

ENGINOL, TURAN B. On a Possible Varying *G* Cosmology. *Turan B. Enginol.* 329, 551, 82-F3 (1988)

ENGLAND, M. N. Comparison of Stellar and Gasdynamics of a Barred Galaxy. *G. Contopoulos, S. T. Gottesman, J. H. Hunter, Jr., & M. N. England.* 343, 608, 126-G1 (1989)

ENGLAND, MARTIN N. Dynamical Models of the Barred Spiral Galaxy NGC 3992. *J. H. Hunter, Jr., R. Ball, J. M. Huntley, Martin N. England, & S. T. Gottesman.* 324, 721, 11-B14 (1988)

High-Resolution Neutral Hydrogen Observations: The Barred Spiral Galaxy NGC 1300. *Martin N. England.* 337, 191, 19-F1 (1989)

Dynamical Models: The Barred Spiral Galaxy NGC 1300. *Martin N. England.* 344, 669, 142-F6 (1989)

High-Resolution Observations, Kinematics, and Dynamics of the Barred Spiral NGC 1073. *Martin N. England, S. T. Gottesman, & J. H. Hunter, Jr.* 348, 456, 8-C4 (1990)

ENGLEMAN, ROLF, JR. Oscillator Strengths of the CN Red System. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engleman, Jr., John G. Phillips, & Robert P. Hubbard.* 303, 892, 52-D8 (1986)

The Structure and Wavelength of Some Pt II Lines of Astrophysical Interest. *Rolf Engleman, Jr.* 340, 1140, 82-D6 (1989)

Highly Excited Rotational States of the Meinel System of OH. *Mark C. Abrams, Sumner P. Davis, M. L. P. Rao, & Rolf Engleman, Jr.* 363, 326, 186-B11 (1990)

ENGSTRÖM, L. Experimental Oscillator Strengths for Resonance Transitions in Aluminum-like Sulfur, S IV. *N. Reistad & L. Engström.* 327, 502, 52-E4 (1988)

ENGVOLD, E. Microflares in the Solar Magnetic Network. *J. G. Porter, R. L. Moore, E. J. Reichmann, E. Engvold, & K. L. Harvey.* 323, 380, 157-C5 (1987)

ENGVOLD, O. Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)

ENGVOLD, ODDBJØRN. Redshifts of High Temperature Emission Lines in the Far-Ultraviolet Spectra of Late-Type Stars. II. New, Precise Measurements of Dwarfs and Giants. *Thomas R. Ayres, Eberhard Jensen, & Oddbjørn Engvold.* 66, 51, 2-A5 (1988)

ENOME, S. A High-Speed Shock Wave in the Impulsive Phase of the 1984 April 24 Flare. *H. Nakajima, S. Kawashima, N. Shinohara, Y. Shiomi, S. Enome, & E. Rieger.* 73, 177, 20-B1 (1990)

ENSMAN, L. Supernova 1987A: Six Weeks Later. *S. E. Woosley, Philip A. Pinto, & L. Ensman.* 324, 466, 6-C9 (1988)

ENSMAN, LISA M. SN 1987A: Out On the Tail. *Philip A. Pinto, S. E. Woosley, & Lisa M. Ensman.* 331, L101, 121-F3 (1988)

Explosions in Wolf-Rayet Stars and Type Ib Supernovae. I. Light Curves. *Lisa M. Ensman & S. E. Woosley.* 333, 754, 148-E5 (1988)

EPIFANI, M. On the Dipole and Quadrupole Kinematic Anisotropy in the Brightness of the Cosmic Background Radiation. *P. de Bernardis, M. Epifani, G. Guarini, S. Masi, F. Melchiorri, & B. Melchiorri.* 353, 145, 64-A1 (1990)

A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)

EPLEE, R. E., JR. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

EPSTEIN, R. I. Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

EPSTEIN, RICHARD I. The X-Ray Emission from Gamma-Ray Burst Sources: Constraints on Theoretical Models. *James N. Imamura & Richard I. Epstein.* 313, 711, 24-E6 (1987)

Vortex Pinning in Neutron Stars. *Richard I. Epstein & Gordon Baym.* 328, 680, 70-E2 (1988)

Acoustic Properties of Neutron Stars. *Richard I. Epstein.* 333, 880, 150-A1 (1988)

Analyzing Gamma-Ray Burst Spectral Data. *Thomas J. Loredo & Richard I. Epstein.* 336, 896, 13-F1 (1989)

Superfluid Dissipation Time Scales in Neutron Star Crusts. *Lars Bildsten & Richard I. Epstein.* 342, 951, 114-B1 (1989)

Inverse-Compton Spectra for Gamma-Ray Bursts: Suppressing the Soft Photons. *Cheng Ho & Richard I. Epstein.* 343, 277, 121-E12 (1989)

The Angular Distribution of Gamma-Ray Bursts. *Dieter Hartmann & Richard I. Epstein.* 346, 960, 179-B1 (1989)

Escape of Beamed Emission from Gamma-Ray Bursts on Magnetized Neutron Stars. *Cheng Ho, Richard I. Epstein, & Edward E. Fenimore.* 348, L25, 6-C6 (1990)

Galactic Neutron Stars and Gamma-Ray Bursts. *Dieter Hartmann, Richard I. Epstein, & S. E. Woosley.* 348, 625, 10-D6 (1990)

ERCAN, E. N. *EXOSAT* Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)

ERICKSON, E. F. Detection of Si II (34.8 Micron) Emission in Orion-KL: A Measurement of the Silicon Abundance in Dense Interstellar Gas. *M. R. Haas, D. J. Hollenbach, & E. F. Erickson.* 301, L57, 27-C7 (1986)

The Ionization Structure of the Orion Nebula: Infrared Line Observations and Models. *J. P. Simpson, R. H. Rubin, E. F. Erickson, & M. R. Haas.* 311, 895, 157-E7 (1986)

Far-Infrared Spectroscopy of Star Formation Regions in M82. *P. B. Duffy, E. F. Erickson, M. R. Haas, & J. R. Houck.* 315, 68, 40-F6 (1987)

Determination of N/O from Far-Infrared Line Observations of Galactic H II Regions. *R. H. Rubin, J. P. Simpson, E. F. Erickson, & M. R. Haas.* 327, 377, 51-B4 (1988)

Shocked [O I] 63 Micron Line Emission from the Supernova Remnant IC 443. *Michael G. Burton, D. J. Hollenbach, M. R. Haas, & E. F. Erickson.* 355, 197, 89-D1 (1990)

Far-Infrared Spectroscopy of the DR 21 Star Formation Region. *Adair P. Lane, M. R. Haas, D. J. Hollenbach, & E. F. Erickson.* 361, 132, 158-F1 (1990)

ERICKSON, EDWIN F. Observations of the 63 Micron [O I] Line in Herbig-Haro Objects. *Martin Cohen, David J. Hollenbach, Michael R. Haas, & Edwin F. Erickson.* 329, 863, 86-E1 (1988)

Observations of Fe II (26.0 Microns) in SN 1987A. *Edwin F. Erickson, Michael R. Haas, Sean W. J. Colgan, Steven D. Lord, Michael G. Burton, Jürgen Wolf, David J. Hollenbach, & Michael Werner.* 330, L39, 96-F7 (1988)

Velocity-resolved Far-Infrared Spectra of [Fe II]: Evidence for Mixing and Clumping in SN 1987A. *Michael R. Haas, Sean W. J. Colgan, Edwin F. Erickson, Steven D. Lord, Michael G. Burton, & David J. Hollenbach.* 360, 257, 148-B12 (1990)

ERICKSON, N. J. The Bipolar Molecular Outflow of V645 Cygni. *A. Schulz, J. H. Black, C. J. Lada, B. L. Ulich, R. N. Martin, R. L. Snell, & N. J. Erickson.* 341, 288, 87-D9 (1989)

ERICKSON, NEAL R. Submillimeter Observations of CS in M17. *Ronald L. Snell, Neal R. Erickson, Paul F. Goldsmith, Bobby L. Ulich, Charles J. Lada, Robert N. Martin, & Andreas Schulz.* 304, 780, 64-F4 (1986)

ERICKSON, W. C. VLA Observations of the Fast Pulsar Candidate in M28. *W. C. Erickson, M. J. Mahoney, R. H. Becker, & D. J. Helfand.* 314, L45, 39-B9 (1987)

Stimulated Emission of Carbon Recombination Lines from Cold Clouds in the Direction of Cassiopeia A. *H. E. Payne, K. R. Anantharamaiah, & W. C. Erickson.* 341, 890, 96-C1 (1989)

ERICKSON, WILLIAM C. Improved Estimates of Galactic H II Region Emission Measures and Filling Factors: Low-Frequency VLA Observations near Sharpless 53. *Namir E. Kassim, Kurt W. Weiler, William C. Erickson, & T. L. Wilson.* 338, 152, 34-G9 (1989)

ERIGUCHI, YOSHIHARU. Fate of Merging Double White Dwarfs. *Izumi Hachisu, Yoshiharu Eriguchi, & Ken'ichi Nomoto.* 308, 161, 109-G5 (1986)

Fate of Merging Double White Dwarfs. II. Numerical Method. *Izumi Hachisu, Yoshiharu Eriguchi, & Ken'ichi Nomoto.* 311, 214, 148-C14 (1986)

Fragmentation of Rapidly Rotating Gas Clouds. I. A Universal Criterion for Fragmentation. *Izumi Hachisu, Joel E. Tohline, & Yoshiharu Eriguchi.* 323, 592, 161-C1 (1987)

Fragmentation of Rapidly Rotating Gas Clouds. II. Polytropes—Clues to the Outcome of Adiabatic Collapse. *Izumi Hachisu, Joel E. Tohline, & Yoshiharu Eriguchi.* 66, 315, 6-D1 (1988)

ERIKSSON, KJELL. The Chemical Composition of Carbon Stars. I. Carbon, Nitrogen, and Oxygen in 30 Cool Carbon Stars in the Galactic Disk. *David L. Lambert, Bengt Gustafsson, Kjell Eriksson, & Kenneth H. Hinkle.* 62, 373, 36-C6 (1986)

Oxygen Isotopic Abundances in Evolved Stars. III. 26 Carbon Stars. *Michael J. Harris, David L. Lambert, Kenneth H. Hinkle, Bengt Gustafsson, & Kjell Eriksson.* 316, 294, 53-B14 (1987)

ERREDE, S. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

ERSHKOVICH, A. I. The Effects of the Interaction between Plasma and Neutrals on the Stability of the Cometary Ionopause. *A. I. Ershkovich & D. A. Mendis.* 302, 849, 40-A3 (1986)

Stability of the Sunlit Cometary Ionopause. *A. I. Ershkovich, K. R. Flammer, & D. A. Mendis.* 311, 1031, 159-B7 (1986)

Nonlinear Stability of the Dayside Cometary Ionopause. *A. I. Ershkovich & K. R. Flammer.* 328, 967, 73-G2 (1988)

Stability of a Cometary Ionosphere/Ionopause Determined by Ion-Neutral Friction. *A. I. Ershkovich, J. F. McKenzie, & W. I. Axford.* 344, 932, 145-F2 (1989)

Stability of a Cometary Ionosphere/Ionopause Including Pressure Effects. *J. F. McKenzie, A. I. Ershkovich, & W. I. Axford.* 360, 275, 148-D5 (1990)

ESCALANTE, V. Relative Strengths of Spectral Lines with Mixed Vector Couplings: Dipole Transitions between *LS* and Other Couplings. *V. Escalante & A. Góngora-T.* 74, 819, 42-A5 (1990)

VLA Observations of High-Velocity H I Associated with the Herbig-Haro Objects 7–11. *L. F. Rodríguez, S. Lizano, J. Cantó, V. Escalante, & I. F. Mirabel.* 365, 261, 209-F5 (1990)

ESCALANTE, VLADIMIR. Effective Recombination Coefficients of Neutral Carbon and Singly Ionized Nitrogen. *Vladimir Escalante & G. A. Victor.* 73, 513, 25-D7 (1990)

ESCOBAR, I. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

ESCULPI, M. Surface Phenomena and the Evolution of Radiating Fluid Spheres in General Relativity. *L. Herrera, J. Jimenez, M. Esculpi, & J. Ibáñez.* 345, 918, 162-A3 (1989)

ESHE, PAULA M. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

ESKRIDGE, PAUL B. Ultraviolet Observations of NGC 205. *Eric M. Wilcots, Paul Hodge, Paul B. Eskridge, Francesco Bertola, & Lucio Buson.* 364, 87, 195-A13 (1990)

ESMAILZADEH, RAHIM. Is the Universe Closed by Baryons? Nucleosynthesis with a Late-decaying Massive Particle. *Savas Dimopoulos, Rahim Esmailzadeh, Lawrence J. Hall, & Glenn D. Starkman.* 330, 545, 98-E1 (1988)

ESPENAK, FRED. On the Apparent Velocity of Integrated Sunlight. I. 1983–1985. *Drake Deming, Fred Espenak, Donald E. Jennings, James W. Brault, & Jeremy Wagner.* 316, 771, 60-E4 (1987)

A Search for *p*-Mode Oscillations of Jupiter: Serendipitous Observations of Nonacoustic Thermal Wave Structure. *Drake Deming, Michael J. Mumma, Fred Espenak, Donald E. Jennings, Theodor Kostiuk, Gunter Wiedemann, Robert Loewenstein, & Joseph Piscitelli.* 343, 456, 123-F7 (1989)

ESPEY, B. R. Hα Emission Lines in High-Redshift Quasars. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 342, 666, 110-G3 (1989)

Hα Emission Lines in High-Redshift Quasars: Erratum. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 354, 763, 85-F11 (1990) (Orig. paper in 342, 666, 110-G3 (1989))

ESPOSITO, JOSEPH A. Measurement of the Cosmic-Ray Iron Spectrum between 60 and 200 GeV per Nucleon. *Joseph A. Esposito, Robert E. Streitmatter, V. K. Balasubrahmanyan, & Jonathan F. Ormes.* 351, 459, 45-G1 (1990)

ESPOSITO, LARRY W. Features in Saturn's Rings. *Larry W. Esposito, Craig C. Harris, & Karen E. Simmons.* 63, 749, 11-G1 (1987)

ESTABROOK, F. B. A Search for Sinusoidal Gravitational Radiation in the Period Range 30–2000 Seconds. *J. W. Armstrong, F. B. Estabrook, & H. D. Wahlquist.* 318, 536, 86-F8 (1987)

ESTALELLA, ROBERT. Ammonia Observations of Outflow Regions. *Guillem Anglada, Luis F. Rodríguez, José M. Torrelles, Robert Estalella, Paul T. P. Ho, Jorge Cantó, Rosario López, & Lourdes Verdes-Montenegro.* 341, 208, 86-E1 (1989)

Further Studies of the Role of Dense Molecular Clouds around Outflow Sources. *Lourdes Verdes-Montenegro, José M. Torrelles, Luis F. Rodríguez, Guillem Anglada, Rosario López, Robert Estalella, Jorge Cantó, & Paul T. P. Ho.* 346, 193, 168-E1 (1989)

ESTULIN, I. V. Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Short Solar Events with Evidence of Repetitive Structures. *Upendra D. Desai, Chryssa Kouveliotou, C. Barat, K. Hurley, M. Niel, R. Talon, G. Vedrenne, I. V. Estulin, & V. Ch. Dolidze.* 319, 567, 99-E1 (1987)

Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

EVANS, A. *IRAS* Observations of Collisionally Heated Dust in Large Magellanic Cloud Supernova Remnants. *James R. Graham, A. Evans, J. S. Albinson, M. F. Bode, & W. P. S. Meikle.* 319, 126, 94-D5 (1987)

A Detailed Study of the Remnant of Nova GK Persei and Its Environs. *E. R. Seaquist, M. F. Bode, D. A. Frail, J. A. Roberts, A. Evans, & J. S. Albinson.* 344, 805, 144-C1 (1989)

EVANS, C. R. Determining Gravitational Radiation from Newtonian Self-gravitating Systems. *L. S. Finn & C. R. Evans.* 351, 588, 47-D7 (1990)

EVANS, CHARLES R. Degenerate Dwarf Binaries as Promising, Detectable Sources of Gravitational Radiation. *Charles R. Evans, Icko Iben, Jr., & Larry Smarr.* 323, 129, 154-E1 (1987)

Simulation of Magnetohydrodynamic Flows: A Constrained Transport Model. *Charles R. Evans & John F. Hawley.* 332, 659, 131-D9 (1988)

Photometry and the Light Curve of the Optical Counterpart of the Eclipsing Millisecond Pulsar 1957+20. *S. Djorgovski & Charles R. Evans.* 335, L61, 185-C6 (1988)

The Tidal Disruption of a Star by a Massive Black Hole. *Charles R. Evans & Christopher S. Kochanek.* 346, L13, 173-B7 (1989)

EVANS, DAVID J. The Oscillations of a Magnetic Flux Tube and Its Application to Sunspots. *David J. Evans & B. Roberts.* 348, 346, 5-C9 (1990)

The Influence of a Chromospheric Magnetic Field on the Solar *p*- and *f*-Modes. II. Uniform Chromospheric Field. *David J. Evans & B. Roberts.* 356, 704, 109-A5 (1990)

EVANS, I. N. Theoretical Models for H II Regions. II. The Extragalactic H II Region Abundance Sequence. *M. A. Dopita & I. N. Evans.* 307, 431, 101-D3 (1986)

Theoretical Models for H II Regions. III. The Abundance Gradient in M101. *I. N. Evans.* 309, 544, 127-B9 (1986)

High-Excitation Extranuclear Gas in the Seyfert Galaxy NGC 1068. *I. N. Evans & M. A. Dopita.* 310, L15, 138-B4 (1986)

H II Region Abundances in Seyfert Galaxies. *I. N. Evans & M. A. Dopita.* 319, 662, 102-B12 (1987)

Nuclear Emission-Line Intensities and Profiles in NGC 3783. *I. N. Evans.* 67, 373, 17-B1 (1988)

Broad-Line Variability in NGC 3783. *I. N. Evans.* 338, 128, 34-E8 (1989)

Maximum Entropy Deconvolution of the Optical Jet of 3C 273. *I. N. Evans, H. C. Ford, & X. Hui.* 347, 68, 183-A1 (1989)

EVANS, NANCY REMAGE. The Orbit of the Classical Cepheid SU Cygni. *Nancy Remage Evans.* 66, 343, 6-G1 (1988)

The Mass of the Classical Cepheid SU Cygni. *Nancy Remage Evans & C. T. Bolton.* 356, 630, 108-A12 (1990)

EVANS, NEAL J., II. Far-Infrared Photometry of Low-Mass Pre–Main-Sequence Stars with Broad CO Wings. *Neal J. Evans II, Russell M. Levreault, & Paul M. Harvey.* 301, 894, 25-D7 (1986)

Models of Molecular Cloud Cores. II. Multitransition Study of $C^{34}S$. *Lee G. Mundy, Ronald L. Snell, Neal J. Evans II, Paul F. Goldsmith, & John Bally.* 306, 670, 91-G9 (1986)

Molecular Clouds in the Outer Galaxy. I. Far-Infrared Observations. *Kathryn N. Mead, Marc L. Kutner, Neal J. Evans II, Paul M. Harvey, & Bruce A. Wilking.* 312, 321, 4-D4 (1987)

Submillimeter Spectral Line Observations in Very Dense Regions. *Neal J. Evans II, Lee G. Mundy, John H. Davis, & Paul Vanden Bout.* 312, 344, 4-E13 (1987)

Models of Molecular Cloud Cores. III. A Multitransition Study of H_2CO. *Lee G. Mundy, Neal J. Evans II, Ronald L. Snell, & Paul F. Goldsmith.* 318, 392, 83-B11 (1987)

Observations of Infrared Emission Lines and Radio Continuum Emission from Pre–Main-Sequence Objects. *Neal J. Evans II, Russell M. Levreault, S. Beckwith, & Mike Skrutskie.* 320, 364, 112-A9 (1987)

The Interstellar Clouds toward 3C 154 and 3C 353. *S. R. Federman, Neal J. Evans II, R. F. Willson, E. Falgarone, F. Combes, & B. M. Scheufele.* 322, 960, 150-D4 (1987)

VLA Observations of H_2CO in Absorption against the Cosmic Background Radiation: Clumps in the S140 Molecular Cloud. *Neal J. Evans II, Marc L. Kutner, & Lee G. Mundy.* 323, 145, 154-F3 (1987)

Neutral Winds from Cool Young Stars: A Solution to the Line Deficit Problem. *A. Natta, C. Giovanardi, F. Palla, & Neal J. Evans II.* 327, 817, 57-E8 (1988)

CO Observations of L1582. *Shudong Zhou, Harold M. Butner, & Neal J. Evans II.* 333, 809, 149-B9 (1988)

New Observations of Paα Lines in Two Quasi-stellar Objects. *Neal J. Evans II & A. Natta.* 339, 943, 63-D4 (1989)

A Reexamination of the Energetics of Molecular Clouds. *Yuefang Wu & Neal J. Evans II.* 340, 307, 70-G5 (1989)

Discovery of Interstellar Acetylene. *J. H. Lacy, Neal J. Evans II, J. M. Achtermann, D. E. Bruce, J. F. Arens, & J. S. Carr.* 342, L43, 109-D7 (1989)

A CS Survey of Low-Mass Cores and Comparison with NH_3 Observations. *Shudong Zhou, Yuefang Wu, Neal J. Evans II, Gary A. Fuller, & Philip C. Myers.* 346, 168, 168-B11 (1989)

The Nature of the Radio and Infrared Sources in S140. *Neal J. Evans II, Lee G. Mundy, Marc L. Kutner, & D. L. DePoy.* 346, 212, 168-F10 (1989)

Molecular Clouds in the Outer Galaxy. IV. Studies of Star Formation. *Kathryn N. Mead, Marc L. Kutner, & Neal J. Evans II.* 354, 492, 82-E1 (1990)

An NH_3 Ring around the Infrared Sources in NGC 2071. *Shudong Zhou, Neal J. Evans II, & Lee G. Mundy.* 355, 159, 88-G12 (1990)

Testing Star Formation Theories: VLA Observations of H_2CO in the Bok Globule B335. *Shudong Zhou, Neal J. Evans II, Harold M. Butner, Marc L. Kutner, Chun Ming Leung, & Lee G. Mundy.* 363, 168, 184-C1 (1990)

High-Resolution, Far-Infrared Observations of NGC 2071. *Harold M. Butner, Neal J. Evans II, Paul M. Harvey, Lee G. Mundy, Antonella Natta, & Maria Sofia Randich.* 364, 164, 196-B1 (1990)

EVANS, ROBERT. The Supernova Rate in Shapley-Ames Galaxies. *Sidney van den Bergh, Robert D. McClure, & Robert Evans.* 323, 44, 153-E4 (1987)

Revised Supernova Rates in Shapley-Ames Galaxies. *Robert Evans, Sidney van den Bergh, & Robert D. McClure.* 345, 752, 160-B1 (1989)

EVANS, W. D. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

EVENSON, K. M. The Microwave and Far-Infrared Spectra of the ^{18}OH Radical. *E. R. Comben, J. M. Brown, T. C. Steimle, K. R. Leopold, & K. M. Evenson.* 305, 513, 72-G9 (1986)

Laboratory Measurement of the Rotational Spectrum of the OH Radical with Tunable Far-Infrared Radiation. *J. M. Brown, L. R. Zink, D. A. Jennings, K. M. Evenson, A. Hinz, & I. G. Nolt.* 307, 410, 99-E6 (1986)

Accurate Determination of the Fine-Structure Intervals in the ^3P Ground States of ^{13}C and ^{12}C by Far-Infrared Laser Magnetic Resonances. *A. L. Cooksy, R. J. Saykally, J. M. Brown, & K. M. Evenson.* 309, 828, 130-D1 (1986)

Frequency Measurement of the $J = 1 \leftarrow 0$ Rotational Transition of HD. *K. M. Evenson, D. A. Jennings, J. M. Brown, L. R. Zink, K. R. Leopold, M. D. Vanek, & I. G. Nolt.* 330, L135, 105-B5 (1988)

Laboratory Measurements for the Astrophysical Identification of MgH. *L. R. Zink, D. A. Jennings, K. M. Evenson, & K. R. Leopold.* 359, L65, 144-D1 (1990)

EVENSON, P. A. Magnetic Helicity of the Parker Field. *J. W. Bieber, P. A. Evenson, & W. H. Matthaeus.* 315, 700, 48-C7 (1987)

EVENSON, PAUL. Characteristics of Energetic Solar Flare Electron Spectra. *Dan Moses, Wolfgang Dröge, Peter Meyer, & Paul Evenson.* 346, 523, 172-F1 (1989)

Solar Neutron Decay Proton Observations in Cycle 21. *Paul Evenson, Richard Kroeger, Peter Meyer, & Donald Reames.* 73, 272, 21-D13 (1990)

A 153 Day Periodicity in the Occurrence of Solar Flares Producing Energetic Interplanetary Electrons. *Wolfgang Dröge, Kenneth Gibbs, John M. Grunsfeld, Peter Meyer, Brian J. Newport, Paul Evenson, & Dan Moses.* 73, 279, 21-E7 (1990)

EVERSON, JOHN. A Variational Principle for Determining the Oscillations and Stability of Stellar Systems. *John Everson.* 314, 47, 28-E1 (1987)

EVIATAR, A. Planetary Fast Neutral Emission and Effects on the Solar Wind: A Cometary Exosphere Analog. *D. D. Barbosa & A. Eviatar.* 310, 927, 144-B10 (1986)

Planetary Fast Neutral Emission and Effects on the Solar Wind: A Cometary Exosphere Analog: Erratum. *D. D. Barbosa & A. Eviatar.* 321, 1049, 135-G14 (1987) (Orig. paper in 310, 927, 144-B10 (1986))

Plasma Conductivity for Comet Halley's Ionosphere. *B. Buti & A. Eviatar.* 336, L71, 16-G1 (1989)

EVIATAR, AHARON. Predicted Satellite Plasma Tori in the Magnetosphere of Uranus. *Aharon Eviatar & John D. Richardson.* 300, L99, 13-G6 (1986)

Energetic Ion Fluxes in the Inner Coma of Comet P/Halley. *Aharon Eviatar, Raymond Goldstein, David T. Young, Hans Balsiger, Helmut Rosenbauer, & Stephen Fuselier.* 339, 545, 56-E13 (1989)

EVRARD, A. E. The Morphology-Density Relation for Galaxies in a Cold Dark Matter–dominated Universe. *A. E. Evrard, J. Silk, & A. S. Szalay.* 365, 13, 206-C1 (1990)

EVRARD, AUGUST E. Large-Scale Clustering of Galaxies with Massive Dark Halos. I. General Structure, Two-Point Correlations, and Binaries. *August E. Evrard.* 310, 1, 132-A7 (1986)

Large-Scale Clustering of Galaxies with Massive Dark Halos. II. Mass-to-Light Profiles and Dynamical Mass Estimates of Galaxy Groups. *August E. Evrard.* 316, 36, 50-D6 (1987)

Testing Origins of the Hubble Sequence. *August E. Evrard.* 341, 26, 84-C11 (1989)

Biased Cold Dark Matter Theory: Trouble from Rich Clusters? *August E. Evrard.* 341, L71, 100-A1 (1989)

Formation and Evolution of X-Ray Clusters: A Hydrodynamic Simulation of the Intracluster Medium. *August E. Evrard.* 363, 349, 188-D7 (1990)

EWING, J. A. Relationship of Magnetic Field Strength and Brightness of Fine-Structure Elements in the Solar Temperature Minimum Region. *J. W. Cook & J. A. Ewing.* 355, 719, 97-D11 (1990)

FABBIANO, G. The Highly Obscured Nucleus of 3C 219. *G. Fabbiano, S. P. Willner, N. P. Carleton, & M. Elvis.* 304, L37, 66-B1 (1986)

X-Ray Spectra of PG Quasars. I. The Continuum from X-Rays to the Infrared. *Martin Elvis, Richard F. Green, Jill Bechtold, Maarten Schmidt, G. Neugebauer, B. T. Soifer, K. Matthews, & G. Fabbiano.* 310, 291, 135-B13 (1986)

The X-Ray Surface Brightness Distribution and Spectral Properties of Six Early-Type Galaxies. *G. Trinchieri, G. Fabbiano, & C. R. Canizares.* 310, 637, 140-G9 (1986)

A Statistical Analysis of the *Einstein* Normal Galaxy Sample. III. Radio and X-Ray Properties of Elliptical and S0 Galaxies. *G. Fabbiano, U. Klein, G. Trinchieri, & R. Wielebinski.* 312, 111, 2-C1 (1987)

X-Ray Spectra of PG Quasars. II. The X-Ray–Ultraviolet Excess of PG 1211+143. *Jill Bechtold, Bozena Czerny, Martin Elvis, G. Fabbiano, & Richard F. Green.* 314, 699, 37-C5 (1987)

X-Ray Observations of Spiral Galaxies. II. Images and Spectral Parameters of 13 Galaxies. *G. Fabbiano & G. Trinchieri.* 315, 46, 40-D11 (1987)

The Continuum of Type 1 Seyfert Galaxies. I. A Single Form Modified by the Effects of Dust. *Martin Ward, Martin Elvis, G. Fabbiano, N. P. Carleton, S. P. Willner, & A. Lawrence.* 315, 74, 40-F12 (1987)

The X-Ray Spectral Properties of the Bulge of M31. *G. Fabbiano, G. Trinchieri, & L. S. Van Speybroeck.* 316, 127, 51-D1 (1987)

The Continuum of Type 1 Seyfert Galaxies. II. Separating Thermal and Nonthermal Components. *N. P. Carleton, Martin Elvis, G. Fabbiano, S. P. Willner, A. Lawrence, & Martin Ward.* 318, 595, 87-D6 (1987)

A Five-Band Study of Spiral Galaxies: X-Ray, Optical, Near- and Far-Infrared, and Radio Continuum Correlations. *G. Fabbiano, I. M. Gioia, & G. Trinchieri.* 324, 749, 11-E6 (1988)

Morphology and Spectral Characteristics of the X-Ray Emission of M33. *G. Trinchieri, G. Fabbiano, & G. Peres.* 325, 531, 26-C11 (1988)

The X-Ray Emission of M81 and Its Nucleus. *G. Fabbiano.* 325, 544, 26-D10 (1988)

Morphology and Spectral Characteristics of the X-Ray Emission of M33: Erratum. *G. Trinchieri, G. Fabbiano, & G. Peres.* 329, 1037, 88-D10 (1988) (Orig. paper in 325, 531, 26-C11 (1988))

X-Ray Spectra and Large-Scale Features of Two Starburst Galaxies: NGC 253 and M82. *G. Fabbiano.* 330, 672, 99-G8 (1988)

Time Variability of the X-Ray Sources in M33. *G. Peres, F. Reale, A. Collura, & G. Fabbiano.* 336, 140, 2-F11 (1989)

Far-Infrared Emission and Star Formation in Spiral Galaxies. *G. Trinchieri, G. Fabbiano, & R. Bandiera.* 342, 759, 111-G1 (1989)

Radio Emission and the Hot Interstellar Medium of Early-Type Galaxies. *G. Fabbiano, I. M. Gioia, & G. Trinchieri.* 347, 127, 182-F3 (1989)

Nuclear Outflow from the Edge-on Galaxy NGC 3628. *G. Fabbiano, T. Heckman, & W. C. Keel.* 355, 442, 93-G11 (1990)

Einstein X-Ray Observations of M101. *G. Trinchieri, G. Fabbiano, & S. Romaine.* 356, 110, 100-D7 (1990)

A Highly X-Ray–Variable Active Galactic Nucleus near M101: A Microlensing Candidate. *G. Trinchieri, G. Fabbiano, & Martin Elvis.* 356, 430, 105-E10 (1990)

FABBIANO, GIUSEPPINA. Properties of the X-Ray Emitting Gas in Early-Type Galaxies. *Claude R. Canizares, Giuseppina Fabbiano, & Ginevra Trinchieri.* 312, 503, 8-D5 (1987)

Radio Continuum Observations of Early- and Late-Type Spiral Galaxies. *Isabella M. Gioia & Giuseppina Fabbiano.* 63, 771, 13-A13 (1987)

FABBRI, R. Multipole Anisotropies of the Cosmic Background Radiation and Inflationary Models. *R. Fabbri, F. Lucchin, & S. Matarrese.* 315, 1, 40-A7 (1987)

The Large-Scale Anisotropies of the Extragalactic Infrared Background. *R. Fabbri, P. Andreani, F. Melchiorri, & B. Nisini.* 315, 12, 40-B4 (1987)

The Large-Scale Anisotropies of the Extragalactic Infrared Background and of the $N(S)$ Source Counts. *R. Fabbri.* 334, 6, 154-B1 (1988)

Anisotropies of the 60 Micron *IRAS* Galaxy Sample at Angular Scales $\gamma > 2°$. *R. Fabbri & V. Natale.* 363, 3, 182-B4 (1990)

FABER, S. M. Contraction of Dark Matter Galactic Halos Due to Baryonic Infall. *George R. Blumenthal, S. M. Faber, Ricardo Flores, & Joel R. Primack.* 301, 27, 14-C6 (1986)

Spectroscopy and Photometry of Elliptical Galaxies. I. New Distance Estimator. *Alan Dressler, Donald Lynden-Bell, David Burstein, Roger L. Davies, S. M. Faber, Roberto Terlevich, & Gary Wegner.* 313, 42, 15-D7 (1987)

Spectroscopy and Photometry of Elliptical Galaxies: A Large-Scale Streaming Motion in the Local Universe. *Alan Dressler, S. M. Faber, David Burstein, Roger L. Davies, Donald Lynden-Bell, R. J. Terlevich, & Gary Wegner.* 313, L37, 27-A9 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. II. The Spectroscopic Parameters. *Roger L. Davies, David Burstein, Alan Dressler, S. M. Faber, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 581, 26-B1 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. III. *UBV* Aperture Photometry, CCD Photometry, and Magnitude-related Parameters. *David Burstein, Roger L. Davies, Alan Dressler, S. M. Faber, Remington P. S. Stone, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 601, 26-C7 (1987)

Photometry and Spectroscopy of Elliptical Galaxies. V. Galaxy Streaming toward the New Supergalactic Center. *D. Lynden-Bell, S. M. Faber, David Burstein, Roger L. Davies, Alan Dressler, R. J. Terlevich, & Gary Wegner.* 326, 19, 32-B12 (1988)

The Far-Ultraviolet Spectra of Early-Type Galaxies. *David Burstein, F. Bertola, L. M. Buson, S. M. Faber, & Tod R. Lauer.* 328, 440, 67-G4 (1988)

Pregalactic Formation of Globular Clusters in Cold Dark Matter. *Edward I. Rosenblatt, S. M. Faber, & George R. Blumenthal.* 330, 191, 92-B2 (1988)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 69, 763, 12-G7 (1989)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary: Erratum. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 71, 173, 36-E7 (1989) (Orig. paper in 69, 763, 12-G7 (1989))

Confirmation of a Large-Scale, Large-Amplitude Flow in the Direction of the Great Attractor. *Alan Dressler & S. M. Faber.* 354, 13, 74-C1 (1990)

Evidence from the Motions of Galaxies for a Large-Scale, Large-Amplitude Flow toward the Great Attractor. *David Burstein, S. M. Faber, & Alan Dressler.* 354, 18, 74-C7 (1990)

The Correlation of X-Ray and Optical Luminosities of Early-Type Galaxies Using New Data and Distances. *R. Hank Donnelly, S. M. Faber, & R. M. O'Connell.* 354, 52, 74-F1 (1990)

New Measurements of Distances to Spirals in the Great Attractor: Further Confirmation of the Large-Scale Flow. *Alan Dressler & S. M. Faber.* 354, L45, 86-B9 (1990)

Potential, Velocity, and Density Fields from Sparse and Noisy Redshift-Distance Samples: Method. *Avishai Dekel, Edmund Bertschinger, & S. M. Faber.* 364, 349, 200-C11 (1990)

Potential, Velocity, and Density Fields from Redshift-Distance Samples: Application: Cosmography within 6000 Kilometers per Second. *Edmund Bertschinger, Avishai Dekel, S. M. Faber, Alan Dressler, & David Burstein.* 364, 370, 200-E6 (1990)

Correlations between Line Strengths and Fine Structure in Elliptical Galaxies. *François Schweizer, Patrick Seitzer, S. M. Faber, David Burstein, Cristina M. Dalle Ore, & J. Jesus Gonzalez.* 364, L33, 205-C13 (1990)

FABIAN, A. Simultaneous X-Ray, Ultraviolet, and Optical Observations of the BL Lacertae Object PKS 2155–304. *A. Treves, M. Morini, L. Chiappetti, A. Fabian, R. Falomo, D. Maccagni, L. Maraschi, E. G. Tanzi, & G. Tagliaferri.* 341, 733, 94-D5 (1989)

FABIAN, A. C. The Detection of Distant Cooling Flows and the Formation of Dark Matter. *A. C. Fabian, K. A. Arnaud, P. E. J. Nulsen, & R. F. Mushotzky.* 305, 9, 67-B1 (1986)

A Phenomenological Triple Star Scenario for SS 433. *A. C. Fabian, P. P. Eggleton, P. Hut, & J. E. Pringle.* 305, 333, 70-F11 (1986)

X-Ray Observations of *IRAS* Selected Seyfert Galaxies and Obscuration of the Broad-Line Region. *M. J. Ward, C. Done, A. C. Fabian, A. F. Tennant, & R. A. Shafer.* 324, 767, 11-F12 (1988)

Electron-Positron Pairs, Compton Reflection, and the X-Ray Spectra of Active Galactic Nuclei. *Andrzej A. Zdziarski, Gabriele Ghisellini, Ian M. George, Roland Svensson, A. C. Fabian, & Chris Done.* 363, L1, 187-A5 (1990)

FABRICANT, D. An X-Ray and Optical Study of the Cluster of Galaxies Abell 754. *D. Fabricant, T. C. Beers, M. J. Geller, P. Gorenstein, J. P. Huchra, & M. J. Kurtz.* 308, 530, 114-F4 (1986)

Measurements of the Gas Temperature and Iron Abundance Distribution in the Coma Cluster. *John P. Hughes, P. Gorenstein, & D. Fabricant.* 329, 82, 75-G6 (1988)

FABRICANT, DANIEL G. A Combined Optical/X-Ray Study of the Galaxy Cluster Abell 2256. *Daniel G. Fabricant, Stephen M. Kent, & Michael J. Kurtz.* 336, 77, 2-A5 (1989)

A Search for Small-Scale X-Ray Surface Brightness Fluctuations in Clusters of Galaxies. *Andrzej Soltan & Daniel G. Fabricant.* 364, 433, 201-D1 (1990)

FAGUNDES, H. V. A Search for QSOs to Fit a Cosmological Model with Flat, Closed Spatial Sections. *H. V. Fagundes & U. F. Wichoski.* 322, L5, 145-A8 (1987)

FAGUNDES, HELIO V. Quasar-Galaxy Associations with Discordant Redshifts as a Topological Effect. II. A Closed Hyperbolic Model. *Helio V. Fagundes.* 338, 618, 41-F1 (1989)

Quasar-Galaxy Associations with Discordant Redshifts as a Topological Effect. II. A Closed Hyperbolic Model: Erratum. *Helio V. Fagundes.* 349, 678, 23-F5 (1990) (Orig. paper in 338, 618, 41-F1 (1989))

FAHEY, A. J. ^{16}O Excesses in Murchison and Murray Hibonites: A Case against a Late Supernova Injection Origin of Isotopic Anomalies in O, Mg, Ca, and Ti. *A. J. Fahey, J. N. Goswami, K. D. McKeegan, & E. K. Zinner.* 323, L91, 158-G5 (1987)

FAHEY, ALBERT J. Large ^{48}Ca Anomalies Are Associated with ^{50}Ti Anomalies in Murchison and Murray Hibonites. *Ernst K. Zinner, Albert J. Fahey, Jitendra N. Goswami, Trevor R. Ireland, & Kevin D. McKeegan.* 311, L103, 160-G1 (1986)

FAHEY, R. P. The Problem of V444 Cygni. *A. B. Underhill & R. P. Fahey.* 313, 358, 18-G9 (1987)

The C IV Doublet Ratio Intensity Effect in Symbiotic Stars. *A. G. Michalitsianos, M. Kafatos, R. P. Fahey, R. Viotti, A. Cassatella, & A. Altamore.* 331, 477, 111-F1 (1988)

FAHLMAN, G. G. Discovery of High-Degree Nonradial Oscillations in Rapidly Rotating δ Scuti Stars? *G. A. H. Walker, S. Yang, & G. G. Fahlman.* 320, L139, 121-E9 (1987)

FAHLMAN, GREGORY G. Deep CCD Photometry in Globular Clusters. IV. M13. *Harvey B. Richer & Gregory G. Fahlman.* 304, 273, 57-A1 (1986)

Mass Functions for Globular Cluster Main Sequences Based on CCD Photometry and Stellar Models. *Robert D. McClure, Don A. VandenBerg, Graeme H. Smith, Gregory G. Fahlman, Harvey B. Richer, James E. Hesser, William E. Harris, Peter B. Stetson, & R. A. Bell.* 307, L49, 107-B10 (1986)

Deep CCD Photometry in Globular Clusters. V. M5. *Harvey B. Richer & Gregory G. Fahlman.* 316, 189, 52-A13 (1987)

Deep CCD Photometry in Globular Clusters. VI. White Dwarfs, Cataclysmic Variables, and Binary Stars in M71. *Harvey B. Richer & Gregory G. Fahlman.* 325, 218, 21-E2 (1988)

Deep CCD Photometry in Globular Clusters. VII. M30. *Harvey B. Richer, Gregory G. Fahlman, & Don A. VandenBerg.* 329, 187, 77-B2 (1988)

Star Counts in the Globular Cluster M71. *Harvey B. Richer & Gregory G. Fahlman.* 339, 178, 52-C1 (1989)

Hot Subdwarfs in Globular Clusters. *Gordon A. Drukier, Gregory G. Fahlman, & Harvey B. Richer.* 342, L27, 109-C4 (1989)
Faint Star Counts in NGC 6397. *Gregory G. Fahlman, Harvey B. Richer, Leonard Searle, & Ian B. Thompson.* 343, L49, 132-C1 (1989)
Luminosity-Velocity Diagrams for Virgo Cluster Spirals. I. Inner Rotation Curves. *David Woods, Barry F. Madore, & Gregory G. Fahlman.* 353, 90, 63-C1 (1990)
Low-Luminosity Stellar Mass Functions in Globular Clusters. *Harvey B. Richer, Gregory G. Fahlman, Roberto Buonanno, & Flavio Fusi Pecci.* 359, L11, 138-B3 (1990)
FAIRALL, A. P. An Explosive Origin of Bubbles in the Distribution of Galaxies? *G. F. R. Ellis & A. P. Fairall.* 327, 34, 47-D1 (1988)
FALCO, E. E. Degeneracies in Parameter Estimates for Models of Gravitational Lens Systems. *M. V. Gorenstein, E. E. Falco, & I. I. Shapiro.* 327, 693, 56-C3 (1988)
VLBI Observations of the Gravitational Lens System 0957+561: Structure and Relative Magnification of the A and B Images. *M. V. Gorenstein, N. L. Cohen, I. I. Shapiro, A. E. E. Rogers, R. J. Bonometti, E. E. Falco, N. Bartel, & J. M. Marcaide.* 334, 42, 154-E1 (1988)
FALGARONE, E. The Interstellar Clouds toward 3C 154 and 3C 353. *S. R. Federman, Neal J. Evans II, R. F. Willson, E. Falgarone, F. Combes, & B. M. Scheufele.* 322, 960, 150-D4 (1987)
A Very Fast Molecular Outflow from the Proto–Planetary Nebula CRL 618. *C. F. Gammie, G. R. Knapp, K. Young, T. G. Phillips, & E. Falgarone.* 345, L87, 165-C1 (1989)
A Signature of the Intermittency of Interstellar Turbulence: The Wings of Molecular Line Profiles. *E. Falgarone & T. G. Phillips.* 359, 344, 140-C9 (1990)
Variations in the Abundance of Transiently Heated Particles within Nearby Molecular Clouds. *F. Boulanger, E. Falgarone, J. L. Puget, & G. Helou.* 364, 136, 195-F5 (1990)
FALL, S. MICHAEL. The Structure of Young Star Clusters in the Large Magellanic Cloud. *Rebecca A. W. Elson, S. Michael Fall, & Kenneth C. Freeman.* 323, 54, 153-F1 (1987)
The Stellar Content of Rich Young Clusters in the Large Magellanic Cloud. *Rebecca A. W. Elson, S. Michael Fall, & Kenneth C. Freeman.* 336, 734, 11-E2 (1989)
Limits on Dust in Damped Lyman-Alpha Systems and the Obscuration of Quasars. *S. Michael Fall & Yichuan C. Pei.* 337, 7, 17-B1 (1989)
Detection of Dust in Damped Lyman-Alpha Systems. *S. Michael Fall, Yichuan C. Pei, & Richard G. McMahon.* 341, L5, 91-A10 (1989)
The Internal Velocity Dispersions of Three Young Star Clusters in the Large Magellanic Cloud. *Robert H. Lupton, S. Michael Fall, Kenneth C. Freeman, & Rebecca A. W. Elson.* 347, 201, 184-E8 (1989)
Radiative Shocks inside Protogalaxies and the Origin of Globular Clusters. *Hyesung Kang, Paul R. Shapiro, S. Michael Fall, & Martin J. Rees.* 363, 488, 190-C1 (1990)
FALOMO, R. Multifrequency Observations of the Blazar PKS 0537–441 in a Moderately Active State. *E. G. Tanzi, P. Barr, P. Bouchet, L. Chiappetti, S. Christiani, R. Falomo, P. Giommi, L. Maraschi, & A. Treves.* 311, L13, 152-B7 (1986)
The Redshift of the BL Lacertae Object PKS 2005–489. *R. Falomo, L. Maraschi, E. G. Tanzi, & A. Treves.* 318, L39, 92-B1 (1987)
The X-Ray to Infrared Energy Distribution of the Quasar PG 0026+129. *A. Treves, P. Bouchet, L. Chiappetti, A. Ciapi, R. Falomo, L. Maraschi, & E. G. Tanzi.* 330, 178, 92-A3 (1988)
Quasi-simultaneous Ultraviolet Optical and Infrared Observations of the BL Lacertae Object PKS 0048–09. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 335, 122, 171-F1 (1988)
The Ultraviolet-Optical-Infrared Energy Distribution of LMC X-3: Observation of an Accretion Disk around a Black Hole. *A. Treves, T. Belloni, P. Bouchet, L. Chiappetti, R. Falomo, L. Maraschi, & E. G. Tanzi.* 335, 142, 172-A1 (1988)
Simultaneous X-Ray, Ultraviolet, and Optical Observations of the BL Lacertae Object PKS 2155–304. *A. Treves, M. Morini, L. Chiappetti, A. Fabian, R. Falomo, D. Maccagni, L. Maraschi, E. G. Tanzi, & G. Tagliaferri.* 341, 733, 94-D5 (1989)
The Ultraviolet to Infrared Energy Distribution of the BL Lacertae Object PKS 0422+00 at Two Different Brightness Levels. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 345, 148, 150-G9 (1989)
X-Ray and Ultraviolet Observations of the Seyfert Galaxy MCG 8-11-11. *A. Treves, G. Bonelli, L. Chiappetti, R. Falomo, L. Maraschi, G. Tagliaferri, & E. G. Tanzi.* 359, 98, 135-C7 (1990)
Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)
FALOMO, RENATO. The High-Luminosity BL Lacertae Object PKS 0823–22. *Renato Falomo.* 353, 114, 63-E1 (1990)
FANELLI, MICHAEL N. Spectral Synthesis in the Ultraviolet. I. Far-Ultraviolet Stellar Library. *Michael N. Fanelli, Robert W. O'Connell, & Trinh X. Thuan.* 321, 768, 133-A1 (1987)
Spectral Synthesis in the Ultraviolet. II. Stellar Populations and Star Formation in Blue Compact Galaxies. *Michael N. Fanelli, Robert W. O'Connell, & Trinh X. Thuan.* 334, 665, 163-F5 (1988)
Spectral Synthesis in the Ultraviolet. III. The Spectral Morphology of Normal Stars in the Mid-Ultraviolet. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 364, 272, 197-D6 (1990)
FANG, C. A Hydrodynamic Model of the Gradual Phase of the Solar Flare Loop. *W. Q. Gan & C. Fang.* 358, 328, 126-B7 (1990)
FANG, DONG-PING. The Distribution of Quasars on the Large Scale and the Super Large Scale. *You-yuan Zhou, Dong-ping Fang, Zu-gan Deng, & Xiang-tao He.* 311, 578, 154-B11 (1986)
FANTI, R. B2 1637+29, a Massive Radio Galaxy Probing a Poor but Gas-rich Group. *H. R. de Ruiter, P. Parma, R. Fanti, & R. D. Ekers.* 329, 225, 77-E3 (1988)
Physical Properties of Jets in Low-Luminosity Radio Sources. *G. V. Bicknell, H. R. de Ruiter, R. Fanti, R. Morganti, & P. Parma.* 354, 98, 75-B9 (1990)
FARAGGIANA, R. The Ultraviolet Spectrum of Procyon. I. The Atlas from 2030 to 2371 Å. *R. Faraggiana, F. Castelli, C. Morossi, Y. Kondo, & K. A. van der Hucht.* 61, 719, 27-D2 (1986)
FARHI, EDWARD. Strange Stars. *Charles Alcock, Edward Farhi, & Angela Olinto.* 310, 261, 134-G11 (1986)
FARRAR, JAMES M. The Reaction of C^+ with HCN: Isomeric Identity of the C_2H^+ Product. *Robert G. Daniel, Eric R. Keim, & James M. Farrar.* 303, 439, 45-G11 (1986)
Dynamics of the Reaction of C^+ with HCl. *David M. Sonnenfroh & James M. Farrar.* 335, 491, 176-B10 (1988)
FASSNACHT, C. Extended X-Ray Emission in Nearby Seyfert Galaxies. *Martin Elvis, C. Fassnacht, A. S. Wilson, & U. Briel.* 361, 459, 163-G1 (1990)
FATUZZO, MARCO. Particle Dynamics and Gamma-Ray Emission in the Magnetospheres of Neutron Stars with Accretion Disks. *Fulvio Melia & Marco Fatuzzo.* 346, 378, 170-G1 (1989)
FAULKNER, D. J. Hydrostatic Evolutionary Sequences for the Nuclei of Planetary Nebulae. *P. R. Wood & D. J. Faulkner.* 307, 659, 104-B9 (1986)
A Study of Some Southern Planetary Nebulae. *Stephen J. Meatheringham, P. R. Wood, & D. J. Faulkner.* 334, 862, 166-A1 (1988)
Parkes H I Observations of Southern Globular Clusters: Implications for Stellar Mass Loss. *Graeme H. Smith, Peter R. Wood, D. J. Faulkner, & Alan E. Wright.* 353, 168, 64-C1 (1990)
FAULKNER, DANNY R. On the Violet Flux of N-Type Carbon Stars. *Danny R. Faulkner, R. Kent Honeycutt, & Hollis R. Johnson.* 324, 490, 6-E6 (1988)
The Violet and Ultraviolet Opacity Problem for Carbon Stars. *Hollis R. Johnson, Donald G. Luttermoser, & Danny R. Faulkner.* 332, 421, 127-F8 (1988)
Spectroscopic and Photometric Observations of Transient Accretion Disks in U Cephei. *Ronald H. Kaitchuck, R. Kent Honeycutt, & Danny R. Faulkner.* 339, 420, 55-C1 (1989)
FAULKNER, JOHN. Solar Models with Energy Transport by Weakly Interacting Particles. *Ronald L. Gilliland, John Faulkner, William H. Press, & David N. Spergel.* 306, 703, 92-C3 (1986)
Main-Sequence Evolution with Efficient Central Energy Transport. *John Faulkner & Fritz J. Swenson.* 329, L47, 81-E1 (1988)

Weakly Interacting, Massive Particles in Horizontal-Branch Stars. *David N. Spergel & John Faulkner.* 331, L21, 114-B11 (1988)

Is There a Classical Hyades Lithium Problem? *Fritz J. Swenson, Guy S. Stringfellow, & John Faulkner.* 348, L33, 6-D3 (1990)

FAUROBERT, M. A Model for the Penetration of Lyman Alpha in the Solar Chromosphere. *M. Faurobert, H. Frisch, & A. Skumanich.* 328, 856, 72-E6 (1988)

FAVATA, F. The Stellar Composition of X-Ray Surveys from the *Einstein Observatory*. *F. Favata, R. Rosner, S. Sciortino, & G. S. Vaiana.* 324, 1010, 14-E13 (1988)

FAZIO, G. Far-Infrared and Radio Observations of DR 6, DR 7, and DR 22. *S. Odenwald, K. Shivanandan, M. Campbell, G. Fazio, P. Schwartz, & H. Moseley.* 306, 122, 82-E7 (1986)

FAZIO, G. G. Multiband Far-Infrared Observations of the NGC 6334 Complex. *L. Loughran, B. McBreen, G. G. Fazio, T. N. Rengarajan, C. W. Maxson, S. Serio, S. Sciortino, & T. P. Ray.* 303, 629, 49-D3 (1986)

Structure in the Nucleus of NGC 1068 at 10 Microns. *R. Tresch-Fienberg, G. G. Fazio, D. Y. Gezari, W. F. Hoffmann, G. M. Lamb, P. K. Shu, & C. R. McCreight.* 312, 542, 8-G2 (1987)

FAZIO, GIOVANNI G. Excess 10 Micron Emission in Extragalactic Nuclei. *Paul T. P. Ho, Jean L. Turner, Giovanni G. Fazio, & S. P. Willner.* 344, 135, 134-F8 (1989)

High-Resolution 8–13 Micron Imaging of the Planetary Nebulae BD +30°3639 and NGC 6572. *Joseph L. Hora, Lynne K. Deutsch, William F. Hoffmann, & Giovanni G. Fazio.* 353, 549, 70-F13 (1990)

FEAUTRIER, N. Impact Line Linear Polarization as a Diagnostic of 100 keV Proton Acceleration in Solar Flares. *J. C. Hénoux, G. Chambe, D. Smith, D. Tamres, N. Feautrier, M. Rovira, & S. Sahal-Bréchot.* 73, 303, 21-G11 (1990)

FEDERMAN, S. R. The 1088 Å Feature toward Reddened Stars. *S. R. Federman.* 309, 306, 123-C4 (1986)

The CO $J = 2 \rightarrow 1$ Emission from the Interstellar Gas toward Zeta Ophiuchi. *R. M. Crutcher & S. R. Federman.* 316, L71, 62-C2 (1987)

The H I Distribution in Clouds within Galaxies. *E. J. Shaya & S. R. Federman.* 319, 76, 93-G9 (1987)

The Interstellar Clouds toward 3C 154 and 3C 353. *S. R. Federman, Neal J. Evans II, R. F. Willson, E. Falgarone, F. Combes, & B. M. Scheufele.* 322, 960, 150-D4 (1987)

The Carbon Chemistry in Interstellar Clouds toward Moderately Reddened Stars. *S. R. Federman & D. L. Lambert.* 328, 777, 71-E7 (1988)

Diffuse Interstellar Clouds as a Chemical Laboratory: The Chemistry of Diatomic Carbon Species. *S. R. Federman & W. T. Huntress, Jr.* 338, 140, 34-F11 (1989)

Modeling the Chemistry of Dense Interstellar Clouds. I. Observational Constraints for the Chemistry. *S. R. Federman, W. T. Huntress, Jr., & S. S. Prasad.* 354, 504, 82-F1 (1990)

FEGAN, D. J. Pulsed TeV Gamma Rays Detected from Hercules X-1 during X-Ray Source Eclipse. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 308, L11, 113-F6 (1986)

Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 309, 114, 121-C4 (1986)

TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

FEGLEY, BRUCE, JR. Chemical Models of the Deep Atmosphere of Uranus. *Bruce Fegley, Jr., & Ronald G. Prinn.* 307, 852, 106-C8 (1986)

Chemical Constraints on the Water and Total Oxygen Abundances in the Deep Atmosphere of Jupiter. *Bruce Fegley, Jr., & Ronald G. Prinn.* 324, 621, 8-B8 (1988)

The Predicted Abundances of Deuterium-bearing Gases in the Atmospheres of Jupiter and Saturn. *Bruce Fegley, Jr., & Ronald G. Prinn.* 326, 490, 37-F1 (1988)

FEIBELMAN, WALTER A. Spectrum and Chemical Analysis of the Double-Ring Planetary Nebula IC 1297. *Lawrence H. Aller, Charles D. Keyes, & Walter A. Feibelman.* 311, 930, 158-A10 (1986)

The (C III λ1909/Si III λ1892) Ratio as a Diagnostic for Planetary Nebulae and Symbiotic Stars. *Walter A. Feibelman & Lawrence H. Aller.* 319, 407, 97-E11 (1987)

The Complex Wind of the Central Star of the Planetary Nebula Abell 78. *James B. Kaler, Walter A. Feibelman, & H. F. Henrichs.* 324, 528, 7-A6 (1988)

A Case Study of a WC Planetary Nebula Nucleus: Henize 2-99. *James B. Kaler, Richard A. Shaw, Walter A. Feibelman, & Julie H. Lutz.* 70, 213, 21-C1 (1989)

Terminal Velocity of Wind, Mass Loss, and Absorption Lines in the Central Star of the Planetary Nebula 75 + 35°1. *Walter A. Feibelman & Frederick C. Bruhweiler.* 347, 901, 194-F3 (1989)

Ultraviolet Observations of the Enigmatic Bipolar Nebula M1-92. *Walter A. Feibelman & Frederick C. Bruhweiler.* 354, 262, 77-D1 (1990)

Ultraviolet Fe VII Absorption Lines in Planetary Nebula Nuclei, Hot Subdwarfs, and Hot Degenerate Objects. *Walter A. Feibelman & Frederick C. Bruhweiler.* 357, 548, 119-D9 (1990)

FEIGELSON, E. D. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

X-Rays from the Radio Halo of M87. *E. D. Feigelson, P. A. D. Wood, E. J. Schreier, D. E. Harris, & M. J. Reid.* 312, 101, 2-B5 (1987)

Two X-Ray–selected BL Lacertae Objects Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, I. R. Tuohy, R. J. V. Brissenden, D. A. H. Buckley, D. A. Schwartz, E. D. Feigelson, & S. Tapia.* 345, 140, 150-F11 (1989)

FEIGELSON, ERIC D. Limb Brightening and Filamentation in the Inner Radio Jet of Centaurus A. *David A. Clarke, Jack O. Burns, & Eric D. Feigelson.* 300, L41, 13-C1 (1986)

Statistical Methods for Astronomical Data with Upper Limits. II. Correlation and Regression. *Takashi Isobe, Eric D. Feigelson, & Paul I. Nelson.* 306, 490, 89-G3 (1986)

Evidence of an Infrared Luminosity Indicator for Galaxies. *Èric D. Feigelson, Takashi Isobe, & Daniel W. Weedman.* 319, L51, 107-C4 (1987)

A Young Radio-emitting Magnetic B Star in the Rho Ophiuchi Cloud. *Philippe André, Thierry Montmerle, Eric D. Feigelson, Peter C. Stine, & Karl-Ludwig Klein.* 335, 940, 183-A10 (1988)

Soft X-Ray Observations of Pre–Main-Sequence Stars in the Chamaeleon Dark Cloud. *Eric D. Feigelson & Gerard A. Kriss.* 338, 262, 36-B5 (1989)

Formation of Polycyclic Aromatic Hydrocarbons in Circumstellar Envelopes. *Michael Frenklach & Eric D. Feigelson.* 341, 372, 88-D4 (1989)

Linear Regression in Astronomy. I. *Takashi Isobe, Eric D. Feigelson, Michael G. Akritas, & Gutti Jogesh Babu.* 364, 104, 195-C7 (1990)

FEINSTEIN, C. SN 1987A: A Linear Polarimetric Study. *M. Méndez, A. Clocchiatti, O. G. Benvenuto, C. Feinstein, & H. G. Marraco.* 334, 295, 157-F1 (1988)

FEINSWOG, LAURIE. Infrared Light Curves of Three Novae and Three Dwarf Novae at Quiescence. *Paula Szkody & Laurie Feinswog.* 334, 422, 159-D1 (1988)

Outburst Spectra of 11 Dwarf Novae. *Paula Szkody, François Piché, & Laurie Feinswog.* 73, 441, 24-E1 (1990)

A Study of the Eclipsing Cataclysmic Variable Lanning 90. *Peter M. Garnavich, Paula Szkody, Mario Mateo, Laurie Feinswog, John Booth, Bret Goodrich, H. Richard Miller, Michael T. Carini, & John W. Wilson.* 365, 696, 216-G13 (1990)

FEITZINGER, J. V. The Projected Dark Cloud Distribution of the Milky Way. *J. V. Feitzinger & J. A. Stüwe.* 305, 534, 73-B4 (1986)

FEJES, ISTVÁN. The Inner Beams of SS 433. *Jonathan D. Romney, Richard T. Schilizzi, István Fejes, & Ralph E. Spencer.* 321, 822, 133-E3 (1987)

FEKEL, FRANCIS C. A Survey of Chromospherically Active Stars. *Francis C. Fekel, Thomas J. Moffett, & Gregory W. Henry.* 60, 551, 8-C4 (1986)

Chromospheric Ca II H and K and Hα Emission in Single and Binary Stars of Spectral Types F6–M2. *Klaus G. Strassmeier, Francis C. Fekel, Bernard W. Bopp, Robert C. Dempsey, & Gregory W. Henry.* 72, 191, 4-D7 (1990)

FEKEL, FRANCIS C., JR. The Dependence of Ultraviolet Chromospheric Emission upon Rotation among Late-Type Stars. *Theodore Simon & Francis C. Fekel, Jr.* 316, 434, 54-G2 (1987)

FELDMAN, P. A. Ultraviolet, Optical, Infrared, and Microwave Observations of HR 5110. *I. R. Little-Marenin, Theodore Simon, T. R. Ayres, N. L. Cohen, P. A. Feldman, J. L. Linsky, S. J. Little, & R. Lyons.* 303, 780, 51-B1 (1986)

Detection of Deuterated Cyclopropenylidene (C_3HD) in TMC-1. *M. B. Bell, P. A. Feldman, H. E. Matthews, & L. W. Avery.* 311, L89, 160-F2 (1986)

Upper Limits to Interstellar PO. *H. E. Matthews, P. A. Feldman, & P. F. Bernath.* 312, 358, 4-F14 (1987)

Evidence from Meteor Patrol Photographs for a Nonastronomical Origin of the Reported Optical Flashes in Perseus. *I. Halliday, P. A. Feldman, & A. T. Blackwell.* 320, L153, 121-F11 (1987)

A Study of C_3HD in Cold Interstellar Clouds. *M. B. Bell, L. W. Avery, H. E. Matthews, P. A. Feldman, J. K. G. Watson, S. C. Madden, & W. M. Irvine.* 326, 924, 43-F2 (1988)

Laboratory Observation of the $2\nu_2$ Band of the H_3^+ Molecular Ion. *W. A. Majewski, P. A. Feldman, & J. K. G. Watson.* 347, L51, 189-F5 (1989)

Searches for the Protonated Interstellar Species HC_3NH^+, CH_3CNH^+, and $HOCS^+$: Implications for Ion-Molecule Chemistry. *B. E. Turner, T. Amano, & P. A. Feldman.* 349, 376, 18-E1 (1990)

FELDMAN, P. D. Detection of Neutral Oxygen and Sulfur Emissions near Io Using *IUE*. *G. E. Ballester, H. W. Moos, P. D. Feldman, D. F. Strobel, M. E. Summers, J.-L. Bertaux, T. E. Skinner, M. C. Festou, & J. H. Lieske.* 319, L33, 100-D1 (1987)

Cosmic Ultraviolet Background Radiation and Zodiacal Light. *P. D. Tennyson, R. C. Henry, P. D. Feldman, & G. F. Hartig.* 330, 435, 95-B1 (1988)

The Diffuse Far-Ultraviolet Cosmic Background Radiation Field Observed from the Space Shuttle. *J. Murthy, R. C. Henry, P. D. Feldman, & P. D. Tennyson.* 336, 954, 14-D1 (1989)

Observations of a Greenstein Effect in the O I λ1302 Emission of Comet Halley. *K. F. Dymond, P. D. Feldman, & T. N. Woods.* 338, 1115, 47-D10 (1989)

A Multiwavelength Study of the Carlson-Henize Sample of Early-Type Galactic Extreme Emission-Line Stars. *Steven N. Shore, Douglas N. Brown, B. W. Bopp, C. R. Robinson, N. Sanduleak, & P. D. Feldman.* 73, 461, 24-F11 (1990)

FELDMAN, PAUL. The Active Chromosphere Binary HD 17433 (VY Arietis). *Bernard W. Bopp, Steven H. Saar, Carol Ambruster, Paul Feldman, Robert Dempsey, Morgan Allen, & Samuel C. Barden.* 339, 1059, 64-G1 (1989)

FELDMAN, U. Measurement of Wavelengths and Lamb Shifts for Inner-Shell Transitions in Fe XVIII–XXIV. *J. F. Seely, U. Feldman, & U. I. Safronova.* 304, 838, 65-C12 (1986)

The Extreme-Ultraviolet Spectrum (300–630 Å) of an Errupting Prominence Observed from *Skylab*. *K. G. Widing, U. Feldman, & A. K. Bhatia.* 308, 982, 119-F9 (1986)

The Temperature of Solar Flares Determined from X-Ray Spectral Line Ratios. *G. A. Doschek & U. Feldman.* 313, 883, 26-D7 (1987)

Ultraviolet Al III Emission Lines and the Physics of the Solar Transition Region. *G. A. Doschek & U. Feldman.* 315, L67, 45-F5 (1987)

Observations of Nonthermal Energy Distributions during the Impulsive Phase of Solar Flares. *J. F. Seely, U. Feldman, & G. A. Doschek.* 319, 541, 99-B9 (1987)

On the Unresolved Fine Structures of the Solar Atmosphere. II. The Temperature Region 2×10^5 K–5×10^5 K. *U. Feldman.* 320, 426, 112-F2 (1987)

Abundance Variations in the Outer Solar Atmosphere Observed in *Skylab* Spectroheliograms. *K. G. Widing & U. Feldman.* 344, 1046, 147-B6 (1989)

High-Resolution X-Ray Spectra of Solar Flares. IX. Mass Upflow in the Long-Duration Flare of 1979 June 5. *G. A. Doschek, U. Feldman, J. F. Seely, & D. L. McKenzie.* 345, 1079, 164-A1 (1989)

Photospheric Abundances of Oxygen, Neon, and Argon Derived from the XUV Spectrum of an Impulsive Flare. *U. Feldman & K. G. Widing.* 363, 292, 185-F9 (1990)

The Beam-driven Chromospheric Evaporation Model of Solar Flares: A Model Not Supported by Observations from Non-impulsive Large Flares. *U. Feldman.* 364, 322, 198-A9 (1990)

On the Anomalous Abundances of the 2×10^4–2×10^5 K Solar Atmosphere above a Sunspot. *U. Feldman, K. G. Widing, & P. A. Lund.* 364, L21, 199-D1 (1990)

FELDSCHER, L. R. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

FELENBOK, PAUL. Short-Term Spectral Variability in AB Aurigae: Clues for Activity in Herbig Ae Stars. II. The Ca II K Line. *Claude Catala, Paul Felenbok, Jean Czarny, Antonio Talavera, & Ann Merchant Boesgaard.* 308, 791, 117-E9 (1986)

FELLI, M. Solar System–sized Condensations in the Orion Nebula. *E. Churchwell, M. Felli, D. O. S. Wood, & M. Massi.* 321, 516, 127-F11 (1987)

FELTEN, JAMES E. Mystery Spot in Supernova 1987A: Reflection or Fluorescence by an Interstellar Cloud? *James E. Felten, Eli Dwek, & Sueli M. Viegas-Aldrovandi.* 340, 943, 80-B2 (1989)

Are There Detectable Infrared Arcs around Supernova 1987A? *Eli Dwek & James E. Felten.* 342, 300, 104-E8 (1989)

FENIMORE, E. E. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Spartan 1 X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer Regions of the Cluster. *M. P. Ulmer, R. G. Cruddace, E. E. Fenimore, G. G. Fritz, & W. A. Snyder.* 319, 118, 94-C11 (1987)

Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806−20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

Spartan 1 X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer Regions of the Cluster: Erratum. *M. P. Ulmer, R. G. Cruddace,*

E. E. Fenimore, G. G. Fritz, & W. A. Snyder. 325, 519, 24-G7 (1988) (Orig. paper in 319, 118, 94-C11 (1987))
Directivity of 100 keV–1 MeV Photon Sources in Solar Flares. *S. R. Kane, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 326, 1017, 44-F8 (1988)
X-Ray Observations of the Galactic Center by *Spartan 1. N. Kawai, E. E. Fenimore, J. Middleditch, R. G. Cruddace, G. G. Fritz, W. A. Snyder, & M. P. Ulmer.* 330, 130, 91-D11 (1988)
A 2.2 Second Period in the 1984 August 3 Gamma-Ray Burst. *C. Kouveliotou, U. D. Desai, T. L. Cline, B. R. Dennis, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 330, L101, 104-G1 (1988)
Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)
Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)
Spartan 1 X-Ray Observations of the Perseus Cluster. II. The Distribution of Flux and Hardness Ratio Out to a Radius of 50 Arcminutes. *W. A. Snyder, M. P. Kowalski, R. G. Cruddace, G. G. Fritz, J. Middleditch, E. E. Fenimore, M. P. Ulmer, & S. R. Majewski.* 365, 460, 213-F8 (1990)
FENIMORE, EDWARD E. Escape of Beamed Emission from Gamma-Ray Bursts on Magnetized Neutron Stars. *Cheng Ho, Richard I. Epstein, & Edward E. Fenimore.* 348, L25, 6-C6 (1990)
FENTON, K. B. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)
FERETTI, L. VLBI Observations of a Complete Sample of Radio Galaxies. I. Snapshot Data. *G. Giovannini, L. Feretti, & G. Comoretto.* 358, 159, 124-A6 (1990)
FERGUSON, DONALD H. BE Ursae Majoris: A Detached Binary with a Unique Reprocessing Spectrum. *Donald H. Ferguson, James Liebert, Roc Cutri, Richard F. Green, S. P. Willner, João E. Steiner, & Susan Tokarz.* 316, 399, 54-D4 (1987)
FERGUSON, HENRY C. The Spatial Distributions and Intrinsic Shapes of Dwarf Elliptical Galaxies in the Virgo and Fornax Clusters. *Henry C. Ferguson & Allan Sandage.* 346, L53, 181-B4 (1989)
FERGUSON, S. H. On the Relation between Photospheric Flow Fields and the Magnetic Field Distribution on the Solar Surface. *George W. Simon, A. M. Title, K. P. Topka, T. D. Tarbell, R. A. Shine, S. H. Ferguson, H. Zirin, & The SOUP Team.* 327, 964, 59-C1 (1988)
Statistical Properties of Solar Granulation Derived from the SOUP Instrument on *Spacelab 2. A. M. Title, T. D. Tarbell, K. P. Topka, S. H. Ferguson, R. A. Shine, & The SOUP Team.* 336, 475, 7-A10 (1989)
FERLAND, G. J. Spectroscopic Observations of Nova Cygni 1975: The Coronal Line Region Revisited. *G. J. Ferland, D. L. Lambert, & J. H. Woodman.* 60, 375, 5-C6 (1986)
Collisional Effects in the Helium Triplets, and the Primordial Helium Abundance. *G. J. Ferland.* 310, L67, 145-A9 (1986)
Spectroscopic Observations of Nova Cygni 1975: The Coronal Line Region Revisited: Erratum. *G. J. Ferland, D. L. Lambert, & J. H. Woodman.* 62, 939, 44-C8 (1986) (Orig. paper in 60, 375, 5-C6 (1986))
Photoerosion of Nuclei in Quasar Emission-Line Regions. *R. N. Boyd & G. J. Ferland.* 318, L21, 85-B8 (1987)
Hydrogen Emissivity in Realistic Nebulae: The Effects of Velocity Fields and Internal Dust. *S. A. Cota & G. J. Ferland.* 326, 889, 43-C7 (1988)
Radiative Equilibrium of High-Density Clouds, with Application to Active Galactic Nucleus Continua. *G. J. Ferland & M. J. Rees.* 332, 141, 124-E11 (1988)
The Origin of Coronal Lines in Seyfert Galaxies. *K. T. Korista & G. J. Ferland.* 343, 678, 126-E8 (1989)
Small Dense Broad-Line Regions in Active Nuclei. *M. J. Rees, Hagai Netzer, & G. J. Ferland.* 347, 640, 191-B11 (1989)
Implications of Ca II Emission for Physical Conditions in the Broad-Line Region of Active Galactic Nuclei. *G. J. Ferland & S. E. Persson.* 347, 656, 191-D1 (1989)
Optically Thin Thermal Emission as the Origin of the Big Bump in the Spectra of Active Galactic Nuclei. *G. J. Ferland, K. T. Korista, & B. M. Peterson.* 363, L21, 193-D5 (1990)
FERLAND, GARY J. *IUE* Spectra and a Resulting Model of Seyfert 2 Galaxies. *Gary J. Ferland & Donald E. Osterbrock.* 300, 658, 10-D1 (1986)
Radiation Pressure and Emission Clouds around Active Galactic Nuclei. *Moshe Elitzur & Gary J. Ferland.* 305, 35, 67-C13 (1986)
The Ultraviolet and Optical Emission-Line Spectrum of III Zw 77. *Gary J. Ferland & Donald E. Osterbrock.* 318, 145, 80-E3 (1987)
What Heats the Hot Phase in Active Nuclei? *William G. Mathews & Gary J. Ferland.* 323, 456, 159-E6 (1987)
Photoerosion and the Abundances of the Light Elements. *Richard N. Boyd, Gary J. Ferland, & David N. Schramm.* 336, L1, 8-B10 (1989)
FERLET, R. The Location of the Ca II Ions in the Beta Pictoris Disk. *L. M. Hobbs, A. M. Lagrange-Henri, R. Ferlet, A. Vidal-Madjar, & D. E. Welty.* 334, L41, 161-E1 (1988)
FERNÁNDEZ-CASTRO, TELMO. Spectropscopic Observations of the Symbiotic Binary RW Hydrae. *Scott J. Kenyon & Telmo Fernández-Castro.* 316, 427, 54-F9 (1987)
IUE Observations of Z Andromedae: Spectral Variations during Quiescence and a Physical Model. *Telmo Fernández-Castro, Angelo Cassatella, Alvaro Giménez, & Roberto Viotti.* 324, 1016, 14-F5 (1988)
Ultraviolet and Infrared Monitoring of FG Sagittae during 1982–1989: Evolutionary Status. *Benjamin Montesinos, Angelo Cassatella, Rosario González-Riestra, Telmo Fernández-Castro, Carlos Eiroa, & Jesús Jiménez-Fuensalida.* 363, 245, 185-B8 (1990)
FERNIE, J. D. HR 7671: Another UU Herculis Star? *J. D. Fernie.* 301, 302, 17-B12 (1986)
On the Amplitudes of Bump Cepheids. *J. D. Fernie & Siu-kuen J. Chan.* 303, 766, 51-A1 (1986)
Three UU Herculis Stars: 1984 Results. *J. D. Fernie.* 306, 642, 91-E6 (1986)
Color Excesses on a Uniform Scale for 328 Cepheids. *J. D. Fernie.* 72, 153, 4-A1 (1990)
The Structure of the Cepheid Instability Strip. *J. D. Fernie.* 354, 295, 77-F11 (1990)
FERRANDO, P. The Source Charge and Isotopic Abundances of Cosmic Rays with $Z = 9$–16: A Study Using New Fragmentation Cross Sections. *W. R. Webber, A. Soutoul, P. Ferrando, & M. Gupta.* 348, 611, 10-C1 (1990)
FERRARI, A. On Wind-Type Flows in Astrophysical Jets. II. Propagation outside the Nucleus and the Case of M87. *A. Ferrari, E. Trussoni, R. Rosner, & K. Tsinganos.* 300, 577, 9-D10 (1986)
The Equilibrium Structure of Thin Magnetic Flux Tubes. II. *W. Kalkofen, R. Rosner, A. Ferrari, & S. Massaglia.* 304, 519, 59-E10 (1986)
Current-driven Magnetohydrodynamic Thermal Instabilities in Sheared Fields. *G. Bodo, A. Ferrari, S. Massaglia, & R. Rosner.* 313, 432, 19-F10 (1987)
On Wind-Type Flows in Astrophysical Jets. III. Temporal Evolution of Perturbations and the Formation of Shocks. *E. Trussoni, A. Ferrari, R. Rosner, & K. Tsinganos.* 325, 417, 23-F11 (1988)
On the Stability of Magnetized Rotating Jets: The Axisymmetric Case. *G. Bodo, R. Rosner, A. Ferrari, & E. Knobloch.* 341, 631, 93-A7 (1989)
FERRARIO, LILIA. A Centered Dipole Model for the High Field Magnetic White Dwarf GRW +70°8247. *D. T. Wickramasinghe & Lilia Ferrario.* 327, 222, 49-D2 (1988)

Evidence for Nonpolar Emission in a New AM Herculis Candidate. *Ian R. Tuohy, Lilia Ferrario, D. T. Wickramasinghe, & M. R. S. Hawkins.* 328, L59, 74-E11 (1988)

Cyclotron Emission from Inhomogeneous Shocks in AM Herculis–Type Systems. *D. T. Wickramasinghe & Lilia Ferrario.* 334, 412, 159-C2 (1988)

EXO 033319–2554.2: An Eclipsing AM Herculis System Showing Cyclotron Emission Features. *Lilia Ferrario, D. T. Wickramasinghe, Jeremy Bailey, I. R. Tuohy, & J. H. Hough.* 337, 832, 29-C7 (1989)

An Emission-Line Model for AM Herculis Systems. *Lilia Ferrario, D. T. Wickramasinghe, & I. R. Tuohy.* 341, 327, 87-G10 (1989)

A 56 MG Field at the Second Pole in VV Puppis. *D. T. Wickramasinghe, Lilia Ferrario, & Jeremy Bailey.* 342, L35, 109-C12 (1989)

Arc-shaped Cyclotron Emission Regions in AM Herculis Systems. *Lilia Ferrario & D. T. Wickramasinghe.* 357, 582, 119-G5 (1990)

FERRER, OSVALDO. An Interpretation of the Line Profile Variations in the *IUE* Spectrum of the Wolf-Rayet Binary γ_2 Velorum: Erratum. *Estela Brandi, Osvaldo Ferrer, & Jorge Sahade.* 347, 561, 188-G12 (1989) (Orig. paper in 340, 1091, 81-G6 (1989))

FERRER, OSVALDO E. An Interpretation of the Line Profile Variations in the *IUE* Spectrum of the Wolf-Rayet Binary γ_2 Velorum. *Estela Brandi, Osvaldo E. Ferrer, & Jorge Sahade.* 340, 1091, 81-G6 (1989)

FERRI, P. The Transient 42 Second X-Ray Pulsar EXO 2030+375. I. The Discovery and the Luminosity Dependence of the Pulse Period Variations. *A. N. Parmar, N. E. White, L. Stella, C. Izzo, & P. Ferri.* 338, 359, 37-D6 (1989)

FERRIÈRE, KATIA M. Hydromagnetic Wave Heating of the Low-Density Interstellar Medium. *Katia M. Ferrière, Ellen G. Zweibel, & J. Michael Shull.* 332, 984, 135-C5 (1988)

FERRINI, FEDERICO. The Effects of Stimulated Star Formation on the Evolution of the Galaxy. III. The Chemical Evolution of Nonlinear Systems. *Steven N. Shore, Federico Ferrini, & Francesco Palla.* 316, 663, 59-C14 (1987)

FERRO, A. ARELLANO. Ultraviolet Survey for Hot Companions among Nonvariable Yellow Supergiants. *A. Arellano Ferro & Barry F. Madore.* 302, 767, 39-B1 (1986)

FESEN, R. A. A Comparison of High-Resolution Radio and Optical Data for the Northeast Region of the Cygnus Loop. *W. C. Straka, J. R. Dickel, W. P. Blair, & R. A. Fesen.* 306, 266, 84-C2 (1986)

Spatial and Spectral Interpretation of a Bright Filament in the Cygnus Loop. *J. C. Raymond, J. J. Hester, D. Cox, W. P. Blair, R. A. Fesen, & T. R. Gull.* 324, 869, 13-A1 (1988)

The Reionization of Unshocked Ejecta in SN 1006. *A. J. S. Hamilton & R. A. Fesen.* 327, 178, 49-A1 (1988)

FESEN, ROBERT A. The Optical Structure of the Crab Nebula's "Jet." *Robert A. Fesen & Theodore R. Gull.* 306, 259, 84-B5 (1986)

Discovery of Fast-moving Nitrogen-rich Ejecta in the Supernova Remnant Cassiopeia A. *Robert A. Fesen, Robert H. Becker, & William P. Blair.* 313, 378, 19-B3 (1987)

High-Velocity Ultraviolet Iron, Silicon, Oxygen, and Sulfur Absorption Features Associated with the Remnant of SN 1006. *Robert A. Fesen, Chi-Chao Wu, Marvin Leventhal, & Andrew J. S. Hamilton.* 327, 164, 48-G1 (1988)

[Ni II] Emission in Gaseous Nebulae and Seyfert Galaxies. *Richard B. C. Henry & Robert A. Fesen.* 329, 693, 84-C7 (1988)

Highest Velocity Ejecta of Cassiopeia A. *Robert A. Fesen, Robert H. Becker, & Robert W. Goodrich.* 329, L89, 89-D3 (1988)

G70.68+12: A Pre–Main-Sequence Star with a Bright Optical and Radio Emission Shell. *Robert H. Becker & Robert A. Fesen.* 334, L35, 161-D5 (1988)

High-Velocity, Nonradiative Shock Emission in Kepler's Supernova Remnant. *Robert A. Fesen, Robert H. Becker, William P. Blair, & Knox S. Long.* 338, L13, 40-C6 (1989)

Discovery of the Remnant of S Andromedae (SN 1885) in M31. *Robert A. Fesen, Andrew J. S. Hamilton, & Jon M. Saken.* 341, L55, 99-E10 (1989)

Pulsar Reenergization of Old Supernova Remnant Shells. *J. Michael Shull, Robert A. Fesen, & Jon M. Saken.* 346, 860, 178-A1 (1989)

Optical Detection of the Remnant of SN 1980K in NGC 6946. *Robert A. Fesen & Robert H. Becker.* 351, 437, 45-E1 (1990)

Optical Identification of Dust within the Crab Nebula's Filaments. *Robert A. Fesen & William P. Blair.* 351, L45, 49-D6 (1990)

High-Velocity Interstellar Gas in the Lines of Sight to the Wolf-Rayet Stars HD 97152 and HD 96548. *Joy Nichols-Bohlin & Robert A. Fesen.* 353, 281, 65-F1 (1990)

Detection of an Expanding H I Shell in the Old Supernova Remnant CTB 80. *Bon-Chul Koo, William T. Reach, Carl Heiles, Robert A. Fesen, & J. Michael Shull.* 364, 178, 196-C5 (1990)

FESTOU, M. C. Detection of Neutral Oxygen and Sulfur Emissions near Io Using *IUE*. *G. E. Ballester, H. W. Moos, P. D. Feldman, D. F. Strobel, M. E. Summers, J.-L. Bertaux, T. E. Skinner, M. C. Festou, & J. H. Lieske.* 319, L33, 100-D1 (1987)

FESTOU, MICHEL C. The $^{12}C/^{13}C$ Abundance Ratio in Comet Halley. *Susan Wyckoff, Eric Lindholm, Peter A. Wehinger, Bruce A. Peterson, Jean-Marc Zucconi, & Michel C. Festou.* 339, 488, 56-A6 (1989)

FEY, A. L. VLBI Angular Broadening Measurements in the Cygnus Region. *A. L. Fey, S. R. Spangler, & R. L. Mutel.* 337, 730, 28-B1 (1989)

FEY, ALAN L. VLA and Low-Frequency VLBI Observations of the Radio Source 0503+467: Austere Constraints on Interstellar Scattering in Two Media. *Steven R. Spangler, Alan L. Fey, & James M. Cordes.* 322, 909, 149-G3 (1987)

FIALA, NORBERT. Narrow-Band Photometry and the Evolution of Galaxies. II. Results for the Fields of A115 and A227. *Karl D. Rakos, Norbert Fiala, & James M. Schombert.* 328, 463, 68-B1 (1988)

FICH, MICHEL. Supernova Remnants Associated with an H I "Supershell" in the Perseus Spiral Arm. *Michel Fich.* 303, 465, 46-B11 (1986)

The Size Spectrum of Molecular Clouds in the Outer Galaxy. *Susan Terebey, Michel Fich, Leo Blitz, & Christian Henkel.* 308, 357, 112-A1 (1986)

The Correlation between the *IRAS* Infrared Cirrus and Neutral Atomic Hydrogen in the Outer Galaxy. *Susan Terebey & Michel Fich.* 309, L79, 131-D13 (1986)

An Exceptionally Bright, Compact Starburst Nucleus. *Bruce Margon, Scott F. Anderson, Mario Mateo, Michel Fich, & Philip Massey.* 334, 597, 163-A1 (1988)

The Rotation Curve of the Milky Way to $2R_0$. *Michel Fich, Leo Blitz, & Antony A. Stark.* 342, 272, 104-C2 (1989)

FICHTEL, C. E. Reexamination of the *SAS 2* Cygnus X-3 Data. *C. E. Fichtel, D. J. Thompson, & R. C. Lamb.* 319, 362, 97-A9 (1987)

FICHTEL, CARL E. High-Energy and Ultra–High-Energy Cosmic Rays. *Carl E. Fichtel & John Linsley.* 300, 474, 8-C12 (1986)

Prospects for Exploring the Local Galaxies through the Study of Their High-Energy Gamma-Ray Emission. *Mehmet E. Ozel & Carl E. Fichtel.* 335, 135, 171-G4 (1988)

FICK, B. E. Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

FIEDLER, R. Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

FIEDLER, R. L. Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)

FIEDLER, RALPH. Magnetohydrodynamic Solitons and Radio Knots in Jets. *Ralph Fiedler.* 305, 100, 68-A8 (1986)

FIELD, G. B. Is Solar Neutrino Capture Rate Correlated with Sunspot Number? *J. N. Bahcall, G. B. Field, & W. H. Press.* 320, L69, 114-F1 (1987)

FIELD, GEORGE B. Energetic Constraints on Spectral Distortions of the Microwave Background. *Cedric G. Lacey & George B. Field.* 330, L1, 96-C5 (1988)

Possible Infrared Signature of Decaying Particles. *Boqi Wang & George B. Field.* 345, L9, 157-B1 (1989)

Galaxy Formation by Mock Gravity with Dust? *Boqi Wang & George B. Field.* 346, 3, 166-B3 (1989)

FIELDUS, MICHAEL S. Infrared Spectroscopy of Cepheids: Peculiar Velocity Structure and Its Effect on Radii and Distances. *Dimitar D. Sasselov, John B. Lester, & Michael S. Fieldus.* 337, L29, 25-C7 (1989)

FIERRO, J. Physical Conditions of H II Regions in M101 and the Pregalactic Helium Abundance. *S. Torres-Peimbert, M. Peimbert, & J. Fierro.* 345, 186, 151-D4 (1989)

FILIPOWSKI, SHARON. Ultraviolet Events Observed in Active Regions. I. Observations and Scenario. *J. M. Fontenla, E. Tandberg-Hanssen, E. J. Reichmann, & Sharon Filipowski.* 344, 1034, 146-G1 (1989)

FILIPPENKO, ALEXEI V. 4C 29.30: Extended Optical Line and Radio Emission in a Probable Galaxy Merger. *Wil J. M. van Breugel, Timothy M. Heckman, George K. Miley, & Alexei V. Filippenko.* 311, 58, 146-E8 (1986)

A Detailed Study of the Emission Lines in the Seyfert 1 Nucleus of M81. *Alexei V. Filippenko & Wallace L. W. Sargent.* 324, 134, 2-E3 (1988)

Serendipitous Discovery of a Redshift 4.4 QSO. *Patrick J. McCarthy, Mark Dickinson, Alexei V. Filippenko, Hyron Spinrad, & Wil J. M. van Breugel.* 328, L29, 74-C9 (1988)

Soft X-Ray Variability and the Covering Fraction of Active Galactic Nuclei. *Kenneth W. Wachter, Michael A. Strauss, & Alexei V. Filippenko.* 330, 91, 91-A9 (1988)

Extended Broad-Line Emission in the Obscured Seyfert 1 Nucleus of NGC 4388. *Joseph C. Shields & Alexei V. Filippenko.* 332, L55, 137-B9 (1988)

Evidence for Mg II λ2798 Profile Differences in the Gravitationally Lensed QSO 2237+0305A, B. *Alexei V. Filippenko.* 338, L49, 49-B5 (1989)

Kinematic Evidence for a Relativistic Keplerian Disk: Arp 102B. *Kaiyou Chen, Jules P. Halpern, & Alexei V. Filippenko.* 339, 742, 61-A9 (1989)

Bowen Fluorescence in Scorpius X-1. *Jonathan Schachter, Alexei V. Filippenko, & Steven M. Kahn.* 340, 1049, 81-D1 (1989)

Discovery of an Extremely Low Luminosity Seyfert 1 Nucleus in the Dwarf Galaxy NGC 4395. *Alexei V. Filippenko & Wallace L. W. Sargent.* 342, L11, 109-B1 (1989)

SN 1961V: An Extragalactic Eta Carinae Analog? *Robert W. Goodrich, Guy S. Stringfellow, G. Donald Penrod, & Alexei V. Filippenko.* 342, 908, 113-E3 (1989)

Spectroscopic Evidence for Inhomogeneities in the Ejecta of the Type Ib Supernova 1985F. *Alexei V. Filippenko & Wallace L. W. Sargent.* 345, L43, 157-D10 (1989)

Discovery of a Massive, Young Star Cluster in the Filaments of NGC 1275. *Joseph C. Shields & Alexei V. Filippenko.* 353, L7, 67-B1 (1990)

Bowen Fluorescence in a Sample of Seyfert Nuclei. *Jonathan Schachter, Alexei V. Filippenko, & Steven M. Kahn.* 362, 74, 170-A9 (1990)

Bowen Fluorescence in Scorpius X-1: Erratum. *Jonathan Schachter, Alexei V. Filippenko, & Steven M. Kahn.* 362, 379, 173-G5 (1990) (Orig. paper in 340, 1049, 81-D1 (1989))

FILLMORE, JAMES A. Internal Kinematics of Spiral Galaxies: Gas and Stellar Rotation Curves and Dispersion Profiles. *James A. Fillmore, Todd A. Boroson, & Alan Dressler.* 302, 208, 30-B12 (1986)

FINK, H. X-Ray Observations of Solar Flares with the *Einstein* Observatory. *J. H. M. M. Schmitt, F. R. Harnden, Jr., & H. Fink.* 322, 1023, 151-B6 (1987)

FINK, R. *HEAO 1* A-2 Low-Energy Detector X-Ray Spectra of the Cygnus Loop. *D. A. Leahy, R. Fink, & J. Nousek.* 363, 547, 191-A1 (1990)

FINK, UWE. The Infrared Spectrum of M8 E: Evidence for Circumstellar CO. *Harold P. Larson, Reiner Hofmann, & Uwe Fink.* 307, 295, 98-C3 (1986)

The Production Rate and Spatial Distribution of H_2O for Comet P/Halley. *Uwe Fink & Michael A. DiSanti.* 364, 687, 204-F4 (1990)

FINKENTHAL, M. Experimental Evidence for the Effect of Resonance Structures on Electron Excitation Rates for Si III. *T. L. Yu, M. Finkenthal, & H. W. Moos.* 305, 880, 78-E3 (1986)

A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2\text{–}2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

Laboratory Study of the Spectrum of Highly Ionized Calcium in the 100–250 Å Range Applied to Solar Flare Diagnostics. *S. Lippmann, M. Finkenthal, L. K. Huang, H. W. Moos, B. C. Stratton, T. L. Yu, A. K. Bhatia, & W. L. Hodge.* 316, 819, 61-A11 (1987)

FINKENZELLER, ULRICH. The Atmospheres of T Tauri Stars. I. High-Resolution Calibrated Observations of Moderately Active Stars. *Ulrich Finkenzeller & Gibor Basri.* 318, 823, 90-A2 (1987)

FINLAYSON, KEITH. Far-Infrared Emission from the AG Carinae Ring. *Peter J. McGregor, Keith Finlayson, A. R. Hyland, Marshall Joy, Paul M. Harvey, & Dan F. Lester.* 329, 874, 86-E12 (1988)

FINLEY, DAVID S. The Temperature Scale of Hot DA White Dwarfs: Temperatures from Far-Ultraviolet Continuum Fluxes. *David S. Finley, Gibor Basri, & Stuart Bowyer.* 359, 483, 142-A10 (1990)

FINLEY, J. P. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

FINN, JOHN M. Equilibrium of Solar Coronal Arcades. *John M. Finn & James Chen.* 349, 345, 18-B8 (1990)

Three-dimensional Kinematic Reconnection in the Presence of Field Nulls and Closed Field Lines. *Yun-Tung Lau & John M. Finn.* 350, 672, 34-D11 (1990)

FINN, L. S. Determining Gravitational Radiation from Newtonian Self-gravitating Systems. *L. S. Finn & C. R. Evans.* 351, 588, 47-D7 (1990)

FINN, LEE S. Trompe l'Oeil "Binary" Pulsars. *Robert W. Nelson, Lee S. Finn, & Ira Wasserman.* 348, 226, 3-G1 (1990)

FINN, LEE SAMUEL. Spin-down of Rapidly Rotating Neutron Stars. *Lee Samuel Finn & Stuart L. Shapiro.* 359, 444, 141-E6 (1990)

FIORE, F. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

Small-Amplitude Coherent Signals in the X-Ray Emission of NGC 4151. *F. Fiore, E. Massaro, G. C. Perola, & L. Piro.* 347, 171, 183-C1 (1989)

FIORITO, RALPH B. A Study of the Phase Velocity and Growth of Waves at Parallel Shocks. *Ralph B. Fiorito, David Eichler, & Donald C. Ellison.* 364, 582, 203-D1 (1990)

FIREMAN, E. L. Homestake Mine Experiments and Weakly Interacting Particles in the Universe. *E. L. Fireman, B. T. Cleveland, & H. Überall.* 326, 645, 40-F8 (1988)

Constraints on SN 1987A Neutrino Types from the Homestake Mine Detectors. *E. L. Fireman.* 349, 241, 16-G9 (1990)

FISCHER, J. Infrared Line Observations of Low-Luminosity Outflow Sources. *Howard A. Smith, J. Fischer, T. R. Geballe, & P. R. Schwartz.* 316, 265, 52-G12 (1987)

Molecular Hydrogen Line Emission in Seyfert Galactic Nuclei. *J. Fischer, T. R. Geballe, Howard A. Smith, M. Simon, & J. W. V. Storey.* 320, 667, 117-B2 (1987)

FISCHER, M. L. Anisotropy of the Diffuse Background at Millimeter Wavelengths. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 337, L1, 25-A6 (1989)

A Measurement of the Spectrum of the Cosmic Background Radiation from 1 to 3 Millimeter Wavelength. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 362, 107, 170-D9 (1990)

FISHER, GEORGE H. Explosive Evaporation in Solar Flares. *George H. Fisher.* 317, 502, 69-D6 (1987)

Dynamics of Anchored Flux Tubes in the Convection Zone. I. Details of the Model. *Dean-Yi Chou & George H. Fisher.* 341, 533, 90-D5 (1989)

Dynamics of Flare-driven Chromospheric Condensations. *George H. Fisher.* 346, 1019, 179-F10 (1989)

Dynamics of Anchored Flux Tubes in the Convection Zone. I. Details of the Model: Erratum. *Dean-Yi Chou & George H. Fisher.* 352, 780, 60-F10 (1990) (Orig. paper in 341, 533, 90-D5 (1989))

An Equation for the Evolution of Solar and Stellar Flare Loops. *George H. Fisher & Suzanne L. Hawley.* 357, 243, 114-B1 (1990)

FISHER, R. R. Solar Coronal and Magnetic Field Observations near the Time of the 1988 March 18 Solar Eclipse. *D. G. Sime, R. R. Fisher, & D. L. Mickey.* 333, L103, 152-G6 (1988)

Rotation Characteristics of the Fe XIV (5303 Å) Solar Corona. *D. G. Sime, R. R. Fisher, & R. C. Altrock.* 336, 454, 6-G3 (1989)

The Solar Coronal Density Irregularity $\overline{n^2}/(\overline{n})^2$ Derived from Simultaneous Measurements of the EUV and K-coronal Brightness. *F. Q. Orrall, G. J. Rottman, R. R. Fisher, & R. H. Munro.* 349, 656, 23-D4 (1990)

FISHER, W. A. The Orbit of GK Persei. *David Crampton, A. P. Cowley, & W. A. Fisher.* 300, 788, 11-G4 (1986)

FISHMAN, G. J. High-Resolution Observations of Gamma-Ray Line Emission from SN 1987A. *W. G. Sandie, G. H. Nakano, L. F. Chase, Jr., G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, & G. P. Lasche.* 334, L91, 169-E2 (1988)

FITCHETT, M. J. The Distribution of Visual Binaries with Two Bright Components. *P. P. Eggleton, M. J. Fitchett, & C. A. Tout.* 347, 998, 196-A1 (1989)

The Distribution of Visual Binaries with Two Bright Components: Erratum. *P. P. Eggleton, M. J. Fitchett, & C. A. Tout.* 354, 387, 79-A10 (1990) (Orig. paper in 347, 998, 196-A1 (1989))

FITCHETT, MICHAEL. Substructure in the Coma Cluster. *Michael Fitchett & Rachel Webster.* 317, 653, 73-C1 (1987)

Dynamics of the Hydra I Galaxy Cluster. *Michael Fitchett & David Merritt.* 335, 18, 170-C5 (1988)

FITELSON, W. Observations of Far-Infrared Line Profiles in the Orion-KL Region. *M. K. Crawford, J. B. Lugten, W. Fitelson, R. Genzel, & G. Melnick.* 303, L57, 53-D7 (1986)

FITZPATRICK, EDWARD L. Ultraviolet Extinction toward Five Open Clusters, and the Accuracy of *IUE* Extinction Measurements. *Derck Massa & Edward L. Fitzpatrick.* 60, 305, 4-E4 (1986)

An Analysis of the Shapes of Ultraviolet Extinction Curves. I. The 2175 Å Bump. *Edward L. Fitzpatrick & Derck Massa.* 307, 286, 98-B9 (1986)

The Properties of OB Supergiants in the Large Magellanic Cloud. I. Energy Distributions of 10 B Supergiants. *Edward L. Fitzpatrick.* 312, 596, 9-D5 (1987)

The Relationship between the Eddington Limit, the Observed Upper Luminosity Limit for Massive Stars, and the Luminous Blue Variables. *Henny J. G. L. M. Lamers & Edward L. Fitzpatrick.* 324, 279, 4-C7 (1988)

An Analysis of the Shapes of Ultraviolet Extinction Curves. II. The Far-UV Extinction. *Edward L. Fitzpatrick & Derck Massa.* 328, 734, 71-B4 (1988)

Stellar Winds in the Small Magellanic Cloud. *Catharine D. Garmany & Edward L. Fitzpatrick.* 332, 711, 132-B1 (1988)

The Properties of OB Supergiants in the Large Magellanic Cloud. II. Spectral Types and Intrinsic Colors. *Edward L. Fitzpatrick.* 335, 703, 180-C9 (1988)

An Analysis of the Shapes of Ultraviolet Extinction Curves. III. An Atlas of Ultraviolet Extinction Curves. *Edward L. Fitzpatrick & Derck Massa.* 72, 163, 4-B1 (1990)

The H-R Diagram of the Large Magellanic Cloud and Implications for Stellar Evolution. *Edward L. Fitzpatrick & Catharine D. Garmany.* 363, 119, 183-E10 (1990)

FITZSIMMONS, A. The Chemical Composition of a Main-Sequence Star in the Small Magellanic Cloud. *P. L. Dufton, A. Fitzsimmons, & I. D. Howarth.* 362, L59, 181-C11 (1990)

FIX, JOHN D. Infrared Spectroscopy of IRC +10420. *John D. Fix & Michael L. Cobb.* 312, 290, 4-B1 (1987)

Infrared Speckle Interferometry and Imaging of Several OH/IR Stars. *Michael L. Cobb & John D. Fix.* 315, 325, 43-D10 (1987)

The Distribution of Maser Emission in OH/IR Stars. *Alan D. Welty, John D. Fix, & Robert L. Mutel.* 318, 852, 90-C10 (1987)

A Radio Search for Crab-like Nebulae in M33. *Stephen P. Reynolds & John D. Fix.* 322, 673, 147-B7 (1987)

The Structure of Circumstellar Shells. *John D. Fix & Michael L. Cobb.* 329, 290, 78-C2 (1988)

Measurements of the Diffuse Ultraviolet Radiation. *John D. Fix, John D. Craven, & Louis A. Frank.* 345, 203, 151-F1 (1989)

FLAMMER, K. R. Stability of the Sunlit Cometary Ionopause. *A. I. Ershkovich, K. R. Flammer, & D. A. Mendis.* 311, 1031, 159-B7 (1986)

Nonlinear Stability of the Dayside Cometary Ionopause. *A. I. Ershkovich & K. R. Flammer.* 328, 967, 73-G2 (1988)

FLECK, ROBERT C., JR. Angular Momentum in a Turbulent Interstellar Medium. *Robert C. Fleck, Jr.* 315, 259, 42-F14 (1987)

The Mechanical Equilibrium of Interstellar Clouds: Scaling Relations for Gas Density, Line Width, and Magnetic Field Strength. *Robert C. Fleck, Jr.* 328, 299, 65-C2 (1988)

Carbon Monoxide as a Tracer of Molecular Cloud Mass and the Question of Cloud Gravitational Stability. *Robert C. Fleck, Jr.* 333, 840, 149-E1 (1988)

Molecular Clouds and Cloud Cores in the Inner Galaxy: A Comment on Local Energy Input and Cloud Stability. *Robert C. Fleck, Jr.* 333, 845, 149-E6 (1988)

FLEMING, THOMAS A. The Luminosity Function of DA White Dwarfs. *Thomas A. Fleming, James Liebert, & Richard F. Green.* 308, 176, 110-A7 (1986)

A Search for Pulsating Stars Similar to PG 1159–035 and K1-16. *Albert D. Grauer, Howard E. Bond, James Liebert, Thomas A. Fleming, & Richard F. Green.* 323, 271, 156-A10 (1987)

M Dwarfs from the *Einstein* Extended Medium-Sensitivity Survey. *Thomas A. Fleming, James Liebert, Isabella M. Gioia, & Tommaso Maccacaro.* 331, 958, 119-E1 (1988)

The Very Low Mass Triple System: G208–44AB and G208–45. *D. W. McCarthy, Jr., Todd J. Henry, Thomas A. Fleming, Rex A. Saffer, James Liebert, & Julian C. Christou.* 333, 943, 150-F1 (1988)

The Relation between X-Ray Emission and Rotation in Late-Type Stars from the Perspective of X-Ray Selection. *Thomas A. Fleming, Isabella M. Gioia, & Tommaso Maccacaro.* 340, 1011, 80-G8 (1989)

A Compact Planetary Nebula around the Hot White Dwarf EGB 6/PG 0950+139. *James Liebert, Richard Green, Howard E. Bond, J. B. Holberg, F. Wesemael, Thomas A. Fleming, & Kenneth Kidder.* 346, 251, 169-C3 (1989)

A Search for Chromospheres at Faint Magnitudes. *Thomas A. Fleming & Mark S. Giampapa.* 346, 299, 169-G5 (1989)

FLETCHER, ANDRÉ B. Metal Enrichment, Dust, and Star Formation in Galaxies at High Redshifts. II. Lyman-Alpha Emission from the $z = 2.465$ Absorber toward Q0836+113. *Richard W. Hunstead, Max Pettini, & André B. Fletcher.* 356, 23, 99-C11 (1990)

FLICKINGER, GREGORY C. Insoluble Organic Material of the Orgueil Carbonaceous Chondrite and the Unidentified Infrared Bands. *Thomas J. Wdowiak, Gregory C. Flickinger, & John R. Cronin.* 328, L75, 74-G1 (1988)

Spectra of Polycyclic Aromatic Hydrocarbon Molecules at Elevated Temperature and the Interstellar Unidentified Infrared Bands. *Gregory C. Flickinger & Thomas J. Wdowiak.* 362, L71, 181-E1 (1990)

FLORES, RICARDO. Contraction of Dark Matter Galactic Halos Due to Baryonic Infall. *George R. Blumenthal, S. M. Faber, Ricardo Flores, & Joel R. Primack.* 301, 27, 14-C6 (1986)

FLORIDO, E. The Magnetic Field Profiles of NGC 7331, NGC 2841, and NGC 6946: A Theoretical Model. *E. Battaner, E. Florido, & M. L. Sánchez-Saavedra.* 331, 116, 107-C8 (1988)

FLORKOWSKI, D. R. Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley,*

R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming. 309, 707, 129-A8 (1986)

Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)

FLUDRA, A. Coronal Activity in F-, G-, and K-Type Stars. III. The Coronal Differential Emission Measure Distribution of Capella, σ^2 Coronae Borealis, and Procyon. *J. R. Lemen, R. Mewe, C. J. Schrijver, & A. Fludra.* 341, 474, 89-F11 (1989)

Turbulent and Directed Plasma Motions in Solar Flares. *A. Fludra, J. R. Lemen, J. Jakimiec, R. D. Bentley, & J. Sylwester.* 344, 991, 146-C7 (1989)

On the Dependence of Solar Flare X-Ray Spectral Line Intensity Ratios of Highly Ionized Sulfur, Calcium, and Iron on Electron Temperature, Differential Emission Measure, and Atomic Physics. *G. A. Doschek, A. Fludra, R. D. Bentley, J. Lang, K. J. H. Phillips, & T. Watanabe.* 358, 665, 131-G3 (1990)

FLÜCKIGER, E. Solar Neutron Emissivity during the Large Flare on 1982 June 3. *E. L. Chupp, H. Debrunner, E. Flückiger, D. J. Forrest, F. Golliez, G. Kanbach, W. T. Vestrand, J. Cooper, & G. Share.* 318, 913, 91-A1 (1987)

FLÜCKIGER, E. O. Proton Energy Spectra at the Sun in the Solar Cosmic-Ray Events on 1978 May 7 and 1984 February 16. *J. A. Lockwood, H. Debrunner, E. O. Flückiger, & H. Grädel.* 355, 287, 90-D8 (1990)

Signature of the Solar Cosmic-Ray Event on 1982 June 3. *H. Debrunner, E. O. Flückiger, & J. A. Lockwood.* 73, 259, 21-C1 (1990)

Were Solar Neutrons Observed by Neutron Monitors on 1984 April 25? *D. F. Smart, M. A. Shea, E. O. Flückiger, H. Debrunner, & J. E. Humble.* 73, 269, 21-D5 (1990)

FOCARDI, P. DDO 210: The Actual Appearance of a "Ghost" Irregular Galaxy. *G. Marconi, P. Focardi, L. Greggio, & M. Tosi.* 360, L39, 156-C1 (1990)

FOLTZ, CRAIG. A Spiral Galaxy at $z = 0.366$ Which Overlaps the Image of the Quasar 4C 39.47. *Paul Hintzen, W. Romanishin, Craig Foltz, & William Keel.* 337, L5, 25-A10 (1989)

FOLTZ, CRAIG B. On the Abundance of Metals and the Ionization State in Absorbing Clouds toward QSOs. *Frederic H. Chaffee, Jr., Craig B. Foltz, Jill Bechtold, & Ray J. Weymann.* 301, 116, 15-C1 (1986)

High-Precision Radial Velocities for Faint Giants. II. Calibration of the MMT Echellette. *Ruth C. Peterson & Craig B. Foltz.* 307, 143, 96-E9 (1986)

C IV Absorption Systems in QSO Spectra: Is the Character of Systems with $z_{abs} \cong z_{em}$ Different from Those with $z_{abs} \ll z_{em}$? *Craig B. Foltz, Ray J. Weymann, Bradley M. Peterson, Light Sun, Matthew A. Malkan, & Frederic H. Chaffee, Jr.* 307, 504, 102-C1 (1986)

An Upper Limit on the Microwave Background Temperature at $z = 1.776$. *David M. Meyer, John H. Black, Frederic H. Chaffee, Jr., Craig B. Foltz, & Donald G. York.* 308, L37, 120-E1 (1986)

The Absorption-Line Spectrum of GC 1556+335: Ejected or Intervening Material? *Simon L. Morris, Ray J. Weymann, Craig B. Foltz, D. A. Turnshek, S. Shectman, C. Price, & T. A. Boroson.* 310, 40, 132-D12 (1986)

Variability of Markarian 1018: Seyfert 1.9 to Seyfert 1. *Ross D. Cohen, Richard J. Rudy, R. C. Puetter, T. B. Ake, & Craig B. Foltz.* 311, 135, 147-E2 (1986)

Molecules at Early Epochs. II. H_2 and CO toward PHL 957. *John H. Black, Frederic H. Chaffee, Jr., & Craig B. Foltz.* 317, 442, 68-G2 (1987)

The Complex Absorption Spectrum of the Broad Absorption Line QSO 1303+308. *Craig B. Foltz, Ray J. Weymann, Simon L. Morris, & David A. Turnshek.* 317, 450, 68-G10 (1987)

Molecules at Early Epochs. IV. Confirmation of the Detection of H_2 toward PKS 0528−250. *Craig B. Foltz, Frederic H. Chaffee, Jr., & John H. Black.* 324, 267, 4-B4 (1988)

QSOs with PHL 5200–like Broad Absorption Line Profiles. *David A. Turnshek, Craig B. Foltz, Carl J. Grillmair, & Ray J. Weymann.* 325, 651, 27-F4 (1988)

Probing Extragalactic Disks—Limits on the Size and Mass of the "Local" Lyman Alpha Disk toward 3CR 196. *Craig B. Foltz, Frederic H. Chaffee, Jr., & Arthur M. Wolfe.* 335, 35, 170-E1 (1988)

Molecules at Early Epochs. III. The Lyman-Alpha Disk System toward 1331+170. *Frederic H. Chaffee, Jr., John H. Black, & Craig B. Foltz.* 335, 584, 179-A1 (1988)

Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. III. Intermediate-Resolution Spectroscopy. *David A. Turnshek, Arthur M. Wolfe, Kenneth M. Lanzetta, Frank H. Briggs, Ross D. Cohen, Craig B. Foltz, Harding E. Smith, & Belinda J. Wilkes.* 344, 567, 141-E7 (1989)

A New Wide-Separation Gravitational Lens Candidate. *Paul C. Hewett, Rachel L. Webster, Margaret E. Harding, Robert J. Jedrzejewski, Craig B. Foltz, Frederic H. Chaffee, Michael J. Irwin, & Olivier Le Fèvre.* 346, L61, 181-B12 (1989)

On the Spectrum and Field Strength of the Magnetic White Dwarf GD 229. *Gary D. Schmidt, William B. Latter, & Craig B. Foltz.* 350, 758, 35-D7 (1990)

Spectroscopic Limits on High-Redshift Lyα Emission. *James D. Lowenthal, Craig J. Hogan, Robert W. Leach, Gary D. Schmidt, & Craig B. Foltz.* 357, 3, 111-B4 (1990)

FOMALONT, E. High-Resolution Observations of CO from the Bipolar Nebula CRL 2688. *R. Kawabe, M. Ishiguro, T. Kasuga, K.-I. Morita, N. Ukita, H. Kobayashi, S. Okumura, E. Fomalont, & N. Kaifu.* 314, 322, 31-F1 (1987)

FOMALONT, E. B. Scorpius X-1: An Evolving Double Radio Source. *B. J. Geldzahler & E. B. Fomalont.* 311, 805, 156-E11 (1986)

Depolarization Silhouettes and the Filamentary Structure in the Radio Source Fornax A. *E. B. Fomalont, K. A. Ebnetter, W. J. M. van Breugel, & R. D. Ekers.* 346, L17, 173-B11 (1989)

FOMALONT, EDWARD B. Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M−0.13−0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)

FONTAINE, G. Diffusion Coefficients for Stellar Plasmas. *C. Paquette, C. Pelletier, G. Fontaine, & G. Michaud.* 61, 177, 18-G5 (1986)

Diffusion in White Dwarfs: New Results and Comparative Study. *C. Paquette, C. Pelletier, G. Fontaine, & G. Michaud.* 61, 197, 19-A10 (1986)

Carbon Pollution in Helium-rich White Dwarf Atmospheres: Time-dependent Calculations of the Dredge-up Process. *C. Pelletier, G. Fontaine, F. Wesemael, G. Michaud, & G. Wegner.* 307, 242, 97-F4 (1986)

Temperatures for Hot and Pulsating DB White Dwarfs Obtained with the *IUE* Observatory. *James Liebert, F. Wesemael, C. J. Hansen, G. Fontaine, Harry L. Shipman, Edward M. Sion, D. E. Winget, & Richard F. Green.* 309, 241, 122-E7 (1986)

An Independent Method for Determining the Age of the Universe. *D. E. Winget, C. J. Hansen, James Liebert, H. M. Van Horn, G. Fontaine, R. E. Nather, S. O. Kepler, & D. Q. Lamb.* 315, L77, 49-B1 (1987)

Studies of Hot B Subdwarfs. V. Continuing Investigation of the C, N, and Si Abundance Patterns in the Atmospheres of sdB Stars. *R. Lamontagne, F. Wesemael, & G. Fontaine.* 318, 844, 90-C2 (1987)

Selective Mass Loss, Abundance Anomalies, and Helium-rich Stars. *G. Michaud, J. Dupuis, G. Fontaine, & T. Montmerle.* 322, 302, 141-B7 (1987)

The Presence of Helium in Hot DA White Dwarfs: The Role of Radiative Levitation and the Case for Stratified Atmospheres. *S. Vennes, C. Pelletier, G. Fontaine, & F. Wesemael.* 331, 876, 118-E2 (1988)

Studies of Hot B Subdwarfs. VI. Detailed Calculations of Radiative Forces on Metals in the Envelopes and Atmospheres of

Hydrogen-rich Subdwarfs. *P. Bergeron, F. Wesemael, G. Michaud, & G. Fontaine.* 332, 964, 135-A7 (1988)

An Explanation for the Peculiar EUV Spectrum of the Hot DA White Dwarf Feige 24. *S. Vennes, P. Chayer, G. Fontaine, & F. Wesemael.* 336, L25, 8-D9 (1989)

Determination of the Atmospheric Parameters of the Binary DA White Dwarf L870-2 (EG 11). *P. Bergeron, F. Wesemael, James Liebert, & G. Fontaine.* 345, L91, 165-C5 (1989)

Evolutionary Models for Pulsation Studies of White Dwarfs. *M. Tassoul, G. Fontaine, & D. E. Winget.* 72, 335, 6-F9 (1990)

Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 351, 271, 41-D2 (1990)

On the Surface Composition of Cool, Hydrogen-Line White Dwarfs: Discovery of Helium in the Atmospheres of Cool DA Stars and Evidence for Convective Mixing. *P. Bergeron, F. Wesemael, G. Fontaine, & James Liebert.* 351, L21, 43-C11 (1990)

An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather, D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine.* 357, 204, 113-E7 (1990)

Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object: Erratum. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 357, 291, 114-F6 (1990) (Orig. paper in 351, 271, 41-D2 (1990))

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

Spectroscopic Studies and Atmospheric Parameters of Pulsating DA White Dwarf (ZZ Ceti) Stars. *D. Daou, F. Wesemael, P. Bergeron, G. Fontaine, & J. B. Holberg.* 364, 242, 197-A11 (1990)

FONTÁN, C. FERRO. Hopf Bifurcations in Coronal Loops. I. Stability Conditions for Static Equilibrium. *D. Gómez, A. Sicardi Schifino, & C. Ferro Fontán.* 352, 318, 53-F13 (1990)

Hopf Bifurcations in Coronal Loops. II. Nonlinear Evolution of Instabilities. *D. Gómez, A. Sicardi Schifino, & C. Ferro Fontán.* 352, 326, 53-G8 (1990)

FONTÁN, CONSTANTINO FERRO. An Analysis of Unidimensional Soliton Gas Models of Magnetohydrodynamic Turbulence in the Solar Wind. *Silvina Ponce Dawson & Constantino Ferro Fontán.* 348, 761, 12-A3 (1990)

FONTENLA, J. The Lyman-Alpha Line in Various Solar Features. I. Observations. *J. Fontenla, E. J. Reichmann, & E. Tandberg-Hanssen.* 329, 464, 80-B11 (1988)

FONTENLA, J. M. Oscillations in Stellar Atmospheres. *A. Costa, J. M. Fontenla, & A. E. Ringuelet.* 339, 314, 54-A5 (1989)

Ultraviolet Events Observed in Active Regions. I. Observations and Scenario. *J. M. Fontenla, E. Tandberg-Hanssen, E. J. Reichmann, & Sharon Filipowski.* 344, 1034, 146-G1 (1989)

Why DA and DB White Dwarfs Do Not Show Coronal Activity and p-Mode Oscillations. *Z. E. Musielak & J. M. Fontenla.* 346, 435, 171-E1 (1989)

Energy Balance in the Solar Transition Region. I. Hydrostatic Thermal Models with Ambipolar Diffusion. *J. M. Fontenla, E. H. Avrett, & R. Loeser.* 355, 700, 97-C4 (1990)

FONTI, S. Hydrogenated Amorphous Carbon Grains in Comet Halley? *L. Colangeli, G. Schwehm, E. Bussoletti, S. Fonti, A. Blanco, & V. Orofino.* 348, 718, 11-D4 (1990)

Temperature Behavior of Infrared Spectra of Polycyclic Aromatic Hydrocarbons and the Unidentified Infrared Bands. *A. Blanco, S. Fonti, & V. Orofino.* 364, 152, 195-G12 (1990)

FOOTE, B. J. The Linear Stability of Line-tied Coronal Magnetic Fields. *B. J. Foote & I. J. D. Craig.* 350, 437, 30-D1 (1990)

FORBES, DUNCAN A. Rotation Curves for Spiral Galaxies in Clusters. II. Variations as a Function of Cluster Position. *Bradley C. Whitmore, Duncan A. Forbes, & Vera C. Rubin.* 333, 542, 145-G8 (1988)

The Distribution of Mass for Spiral Galaxies in Clusters and in the Field. *Duncan A. Forbes & Bradley C. Whitmore.* 339, 657, 60-A6 (1989)

FORBES, T. G. A Shock Condensation Mechanism for Loop Prominences. *T. G. Forbes & J. M. Malherbe.* 302, L67, 40-F2 (1986)

Fast-Shock Formation in Line-tied Magnetic Reconnection Models of Solar Flares. *T. G. Forbes.* 305, 553, 73-C9 (1986)

Evidence for Gentle Chromospheric Evaporation during the Gradual Phase of Large Solar Flares. *B. Schmieder, T. G. Forbes, J. M. Malherbe, & M. E. Machado.* 317, 956, 76-E8 (1987)

Evaporation in the Transition Region during the Gradual Phase of Flares. *B. Schmieder, J. M. Malherbe, G. M. Simnett, T. G. Forbes, & E. Tandberg-Hanssen.* 356, 720, 109-B9 (1990)

FORD, H. C. The Lyman Edge Test of the Quasar Emission Mechanism. *R. R. J. Antonucci, A. L. Kinney, & H. C. Ford.* 342, 64, 101-G3 (1989)

Maximum Entropy Deconvolution of the Optical Jet of 3C 273. *I. N. Evans, H. C. Ford, & X. Hui.* 347, 68, 183-A1 (1989)

FORD, HOLLAND. The Mass and Halo Dispersion Profile of M32. *Richard Nolthenius & Holland Ford.* 305, 600, 75-D8 (1986)

FORD, HOLLAND C. Chemical Abundances of Planetary Nebulae in M31. *George H. Jacoby & Holland C. Ford.* 304, 490, 59-C5 (1986)

Bubbles and Braided Jets in Galaxies with Compact Radio Nuclei. *Holland C. Ford, Oved Dahari, George H. Jacoby, Patrick C. Crane, & Robin Ciardullo.* 311, L7, 152-A11 (1986)

New Evolutionary Relationships for Magellanic Cloud Planetary Nebulae. *Michael A. Dopita, Stephen J. Meatheringham, Peter R. Wood, B. Louise Webster, David H. Morgan, & Holland C. Ford.* 315, L107, 49-D2 (1987)

Dynamics of the Outer Disk and Halo of M31. *Richard Nolthenius & Holland C. Ford.* 317, 62, 64-E13 (1987)

The Spatial Distribution and Population of Novae in M31. *Robin Ciardullo, Holland C. Ford, James D. Neill, George H. Jacoby, & Allen W. Shafter.* 318, 520, 86-E6 (1987)

The Internal Dynamics of the Planetary Nebulae in the Large Magellanic Cloud. *Michael A. Dopita, Stephen J. Meatheringham, B. Louise Webster, & Holland C. Ford.* 327, 639, 55-F2 (1988)

The Kinematics of the Planetary Nebulae in the Large Magellanic Cloud. *Stephen J. Meatheringham, Michael A. Dopita, Holland C. Ford, & B. Louise Webster.* 327, 651, 55-F14 (1988)

Planetary Nebulae as Standard Candles. II. The Calibration in M31 and Its Companions. *Robin Ciardullo, George H. Jacoby, Holland C. Ford, & James D. Neill.* 339, 53, 50-F1 (1989)

Planetary Nebulae as Standard Candles. III. The Distance to M81. *George H. Jacoby, Robin Ciardullo, Holland C. Ford, & John Booth.* 344, 704, 143-B1 (1989)

Planetary Nebulae as Standard Candles. IV. A Test in the Leo I Group. *Robin Ciardullo, George H. Jacoby, & Holland C. Ford.* 344, 715, 143-C2 (1989)

Planetary Nebulae as Standard Candles. V. The Distance to the Virgo Cluster. *George H. Jacoby, Robin Ciardullo, & Holland C. Ford.* 356, 332, 104-D6 (1990)

The Hα Light Curves of Novae in M31. *Robin Ciardullo, Allen W. Shafter, Holland C. Ford, James D. Neill, Michael M. Shara, & A. B. Tomaney.* 356, 472, 106-B10 (1990)

FORD, V. L. The Structure of the Small Magellanic Cloud. *D. S. Mathewson, V. L. Ford, & N. Visvanathan.* 301, 664, 22-G11 (1986)

The Structure of the Small Magellanic Cloud. II. *D. S. Mathewson, V. L. Ford, & N. Visvanathan.* 333, 617, 146-G1 (1988)

FORD, W. KENT, JR. UGC 12591: The Most Rapidly Rotating Disk Galaxy. *Riccardo Giovanelli, Martha P. Haynes, Vera C. Rubin, & W. Kent Ford, Jr.* 301, L7, 20-B4 (1986)

Is the Distribution of Mass within Spiral Galaxies a Function of Galaxy Environment? *David Burstein, Vera C. Rubin, W. Kent Ford, Jr., & Bradley C. Whitmore.* 305, L11, 74-A13 (1986)

On the Ratio of [N II]/Hα in the Nucleus of M33 and in the Nuclei of Other Galaxies. *Vera C. Rubin & W. Kent Ford, Jr.* 305, L35, 80-B1 (1986)

The Structure and Evolution of Hoag's Object. *François Schweizer, W. Kent Ford, Jr., Robert Jedrzejewski, & Riccardo Giovanelli.* 320, 454, 114-D3 (1987)

Rotation Curves for Spiral Galaxies in Clusters. I. Data, Global Properties, and a Comparison with Field Galaxies. *Vera C. Rubin, Bradley C. Whitmore, & W. Kent Ford, Jr.* 333, 522, 145-E5 (1988)

One Galaxy from Several: The Hickson Compact Group H31. *Vera C. Rubin, Deidre A. Hunter, & W. Kent Ford, Jr.* 365, 86, 207-A10 (1990)

FORMAN, W. Hot Coronae around Early-Type Galaxies: Erratum. *W. Forman, C. Jones, & W. Tucker.* 300, 836, 12-C11 (1986) (Orig. paper in 293, 102, 59-A10 (1985))

Einstein Observations of the Hydra A Cluster and the Efficiency of Galaxy Formation in Groups and Clusters. *L. P. David, K. A. Arnaud, W. Forman, & C. Jones.* 356, 32, 99-D7 (1990)

The Evolution of the Interstellar Medium in Elliptical Galaxies. I. The Early Wind Phase. *L. P. David, W. Forman, & C. Jones.* 359, 29, 134-D7 (1990)

FORMAN, WILLIAM. The Pattern of Gas Deficiency in Cluster Spirals: The Correlation of H I and X-Ray Properties. *Christopher Magri, Martha P. Haynes, William Forman, Christine Jones, & Riccardo Giovanelli.* 333, 136, 139-D7 (1988)

FORREST, D. J. Rapid Acceleration of Energetic Particles in the 1982 February 8 Solar Flare. *S. R. Kane, E. L. Chupp, D. J. Forrest, G. H. Share, & E. Rieger.* 300, L95, 13-G2 (1986)

Solar Neutron Emissivity during the Large Flare on 1982 June 3. *E. L. Chupp, H. Debrunner, E. Flückiger, D. J. Forrest, F. Golliez, G. Kanbach, W. T. Vestrand, J. Cooper, & G. Share.* 318, 913, 91-A1 (1987)

Gamma-Ray Observations of the Crab Region Using a Coded-Aperture Telescope. *M. L. McConnell, P. P. Dunphy, D. J. Forrest, E. L. Chupp, & A. Owens.* 321, 543, 128-A13 (1987)

The Directivity of High-Energy Emission from Solar Flares. II. *Solar Maximum Mission* Observations. *W. Thomas Vestrand, D. J. Forrest, E. L. Chupp, E. Rieger, & G. H. Share.* 322, 1010, 151-A7 (1987)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Messina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 326, 717, 41-E1 (1988)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation: Erratum. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Massina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 331, 1078, 120-G4 (1988) (Orig. paper in 326, 717, 41-E1 (1988))

Gamma-Ray Observations of Cygnus X-1 and Cygnus X-3 Using a Coded-Aperture Telescope. *M. L. McConnell, D. J. Forrest, A. Owens, P. P. Dunphy, W. T. Vestrand, & E. L. Chupp.* 343, 317, 122-B2 (1989)

Solar Flare Nuclear Gamma Rays and Interplanetary Proton Events. *E. W. Cliver, D. J. Forrest, H. V. Cane, D. V. Reames, R. E. McGuire, T. T. von Rosenvinge, S. R. Kane, & R. J. MacDowall.* 343, 953, 131-A1 (1989)

Nuclear Line Spectroscopy of the 1981 April 27 Solar Flare. *R. J. Murphy, G. H. Share, J. R. Letaw, & D. J. Forrest.* 358, 298, 125-G1 (1990)

FORREST, W. J. Sagittarius A* and the Positions of Infrared Sources in the Galactic Center. *W. J. Forrest, J. L. Pipher, & W. A. Stein.* 301, L49, 27-B11 (1986)

Unipolar Bubbles in Star-forming Regions. *W. J. Forrest & M. A. Shure.* 311, L81, 160-E4 (1986)

Direct Infrared Imaging of VB 8. *M. F. Skrutskie, W. J. Forrest, & M. A. Shure.* 312, L55, 14-C11 (1987)

A Possible Brown Dwarf Companion to Gliese 569. *W. J. Forrest, M. F. Skrutskie, & Mark Shure.* 330, L119, 105-A4 (1988)

Near-Infrared Images of the Bipolar Nebula OH 0739−14. *C. E. Woodward, W. J. Forrest, J. L. Pipher, A. Moneti, & M. A. Shure.* 337, 754, 28-D2 (1989)

Spectroscopic Images of NGC 7027 in the Near-Infrared Dust Emission Features. *C. E. Woodward, Judith L. Pipher, Mark Shure, W. J. Forrest, & K. Sellgren.* 342, 860, 113-A7 (1989)

Subarcsecond Resolution Observations of the Central Parsec of the Galaxy at 2.2 Microns. *M. Simon, W.-P. Chen, W. J. Forrest, J. D. Garnett, A. J. Longmore, T. Gauer, & R. I. Dixon.* 360, 95, 146-C1 (1990)

Infrared Imaging of the M8 Hourglass. *Charles E. Woodward, Judith L. Pipher, H. L. Helfer, & W. J. Forrest.* 365, 252, 209-C7 (1990)

FORREST, WILLIAM J. High Spatial Resolution Infrared Imaging of L1551–IRS 5: Direct Observations of Its Circumstellar Envelope. *Andrea Moneti, William J. Forrest, Judith L. Pipher, & Charles E. Woodward.* 327, 870, 58-B10 (1988)

FORT, B. P. Surface Photometry of Shell Galaxies. *B. P. Fort, J.-L. Prieur, D. Carter, S. J. Meatheringham, & L. Vigroux.* 306, 110, 82-D9 (1986)

FORT, D. N. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

FORTE, JUAN C. NGC 362: More Arguments for Dust in Globular Clusters. *Mariano Méndez, Juan C. Forte, & Ana M. Orsatti.* 338, 136, 34-F4 (1989)

Dust Clouds within Globular Clusters: Polarization. *Juan C. Forte & Mariano Méndez.* 345, 222, 151-G10 (1989)

FORTE, JUAN CARLOS. The Abundance Distribution and Luminosity Function of Globular Clusters in NGC 1399. *Doug Geisler & Juan Carlos Forte.* 350, L5, 31-B1 (1990)

FORVEILLE, T. Observations of 40–70 Micron Bands of Ice in IRAS 09371+1212 and Other Stars. *A. Omont, S. H. Moseley, T. Forveille, W. J. Glaccum, P. M. Harvey, L. Likkel, R. F. Loewenstein, & C. M. Lisse.* 355, L27, 92-C11 (1990)

FOSBURY, R. A. E. Recurrent Outbursts in the Broad-Line Region of NGC 1566. *Danielle Alloin, Didier Pelat, M. M. Phillips, R. A. E. Fosbury, & K. Freeman.* 308, 23, 108-C2 (1986)

FOSTER, G. W. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

FOSTER, R. S. Period Derivative of the Millisecond Pulsar in Globular Cluster M28. *R. S. Foster, D. C. Backer, J. H. Taylor, & W. M. Goss.* 326, L13, 38-B5 (1988)

Timing Properties of PSR 1951+32 in the CTB 80 Supernova Remnant. *R. S. Foster, D. C. Backer, & A. Wolszczan.* 356, 243, 102-B3 (1990)

Constructing a Pulsar Timing Array. *R. S. Foster & D. C. Backer.* 361, 300, 160-F1 (1990)

Interstellar Propagation Effects and the Precision of Pulsar Timing. *R. S. Foster & J. M. Cordes.* 364, 123, 195-E4 (1990)

FOUKAL, P. The Influence of Faculae on Total Solar Irradiance and Luminosity. *P. Foukal & J. Lean.* 302, 826, 39-F5 (1986)

Electric Fields and Plasma Structure in Coronal Magnetic Loops. *P. Foukal, C. Hoyt, & L. Gilliam.* 303, 861, 52-A2 (1986)

Magnetic Modulation of Solar Luminosity by Photospheric Activity. *P. Foukal & J. Lean.* 328, 347, 66-A4 (1988)

Infrared Imaging of Sunspots and Faculae at the Photospheric Opacity Minimum. *P. Foukal, R. Little, & J. Mooney.* 336, L33, 8-E4 (1989)

Infrared Imaging of Faculae at the Deepest Photospheric Layers. *P. Foukal, R. Little, J. Graves, D. Rabin, & D. Lynch.* 353, 712, 72-F1 (1990)

FOUNTAIN, W. F. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

FOUQUÉ, P. The Extragalactic Distance Scale. II. The Unbiased Distance to the Virgo Cluster from the *B*-Band Tully-Fisher

Relation. *P. Fouqué, L. Bottinelli, L. Gouguenheim, & G. Paturel.* 349, 1, 14-A10 (1990)

FOWLER, A. M. Demonstration of an Algorithm for Read-Noise Reduction in Infrared Arrays. *A. M. Fowler & Ian Gatley.* 353, L33, 67-D6 (1990)

FOWLER, J. R. The Local Interstellar Medium. VII. The Local Interstellar Wind and Interstellar Material in Front of the Nearby Star α Ophiuchi. *P. C. Frisch, D. G. York, & J. R. Fowler.* 320, 842, 119-A10 (1987)

Ionization in Nearby Interstellar Gas. *P. C. Frisch, D. E. Welty, D. G. York, & J. R. Fowler.* 357, 514, 119-A5 (1990)

FOWLER, L. A. Frequency Dependence of the Main Pulse to Interpulse Separation for Seven Pulsars. *T. H. Hankins & L. A. Fowler.* 304, 256, 56-F8 (1986)

FOWLER, P. H. *Ariel 6* Measurements of the Fluxes of Ultra-heavy Cosmic Rays. *P. H. Fowler, R. N. F. Walker, M. R. W. Masheder, R. T. Moses, A. Worley, & A. M. Gay.* 314, 739, 37-F7 (1987)

FOWLER, W. A. A New Estimate of the $^{19}Ne(p,\gamma)^{20}Na$ and $^{15}O(\alpha,\gamma)^{19}Ne$ Reaction Rates at Stellar Energies. *K. Langanke, M. Wiescher, W. A. Fowler, & J. Görres.* 301, 629, 22-E3 (1986)

FOWLER, WILLIAM A. Gamma-Ray Constraints on ^{22}Na Yields in Nova Explosions. *J. C. Higdon & William A. Fowler.* 317, 710, 73-G2 (1987)

Late-Time Neutron Diffusion and Nucleosynthesis in a Post–QCD Inhomogeneous $\Omega_b = 1$ Universe. *Robert A. Malaney & William A. Fowler.* 333, 14, 138-B8 (1988)

Angular Distribution of 1.809 MeV Gamma Rays Generated in the Decay of ^{26}Al Produced by Galactic Novae. *J. C. Higdon & William A. Fowler.* 339, 956, 63-E3 (1989)

On Nuclear Reactions and ^{9}Be Production in Inhomogeneous Cosmologies. *Robert A. Malaney & William A. Fowler.* 345, L5, 157-A10 (1989)

Our Sun. I. The Standard Model: Successes and Failures. *I.-Juliana Sackmann, Arnold I. Boothroyd, & William A. Fowler.* 360, 727, 155-B9 (1990)

FOX, GEOFFREY K. Stellar Occultation of Polarized Light from Circumstellar Electrons. I. Flat Envelopes Viewed Edge-on. *John C. Brown & Geoffrey K. Fox.* 347, 468, 187-G5 (1989)

FRACASSINI, MASSIMO. The Chromosphere of Beta Cassiopeiae. *Terry J. Teays, Edward G. Schmidt, Massimo Fracassini, & Laura E. Pasinetti Fracassini.* 343, 916, 130-E4 (1989)

FRAIL, D. A. Neutral Hydrogen Absorption Observations toward High-Dispersion Measure Pulsars. *T. R. Clifton, D. A. Frail, Shrinivas R. Kulkarni, & J. M. Weisberg.* 333, 332, 141-F7 (1988)

A Kinematic Distance to the Supernova Remnant G33.6+0.1. *D. A. Frail & T. R. Clifton.* 336, 854, 13-B1 (1989)

A Detailed Study of the Remnant of Nova GK Persei and Its Environs. *E. R. Seaquist, M. F. Bode, D. A. Frail, J. A. Roberts, A. Evans, & J. S. Albinson.* 344, 805, 144-C1 (1989)

FRAIX-BURNET, D. Near-Ultraviolet Emission from 3C 66B and Its Jet. *D. Fraix-Burnet, J.-L. Nieto, G. Lelièvre, F. D. Macchetto, M. A. C. Perryman, & S. di Serego Alighieri.* 336, 121, 2-E1 (1989)

FRANCESCHINI, A. Interpretation of Deep Counts of Radio Sources. *L. Danese, G. De Zotti, A. Franceschini, & L. Toffolatti.* 318, L15, 85-B2 (1987)

The Autocorrelation Properties of Fluctuations in the Cosmic X-Ray Background. *M. Persic, G. De Zotti, E. A. Boldt, F. E. Marshall, L. Danese, A. Franceschini, & G. G. C. Palumbo.* 336, L47, 16-E1 (1989)

Discrete Source Contributions to Small-Scale Anisotropies of the Microwave Background. *A. Franceschini, L. Toffolatti, L. Danese, & G. De Zotti.* 344, 35, 133-D8 (1989)

Contributions of Low-Luminosity Sources to the X-Ray Background. *M. Persic, G. De Zotti, L. Danese, G. G. C. Palumbo, A. Franceschini, E. A. Boldt, & F. E. Marshall.* 344, 125, 134-E10 (1989)

Constraints on Large-Scale Clustering from the Autocorrelation Properties of the X-Ray Background. *G. De Zotti, M. Persic, A. Franceschini, L. Danese, G. G. C. Palumbo, E. A. Boldt, & F. E. Marshall.* 351, 22, 38-C10 (1990)

FRANCESCHINI, ALBERTO. On the Relationship between Optically Selected and X-Ray–selected Active Galactic Nuclei. *Alberto Franceschini, Isabella M. Gioia, & Tommaso Maccacaro.* 301, 124, 15-C9 (1986)

FRANCO, J. On the Origin of the Orion and Monoceros Molecular Cloud Complexes. *J. Franco, G. Tenorio-Tagle, P. Bodenheimer, M. Różyczka, & I. F. Mirabel.* 333, 826, 149-D1 (1988)

FRANCO, JOSÉ. On the Formation and Expansion of H II Regions. *José Franco, Guillermo Tenorio-Tagle, & Peter Bodenheimer.* 349, 126, 15-E1 (1990)

FRANÇOIS, P. The G-Dwarf Problem and the Closed-Box Models of Galactic Evolution. *P. François, E. Vangioni-Flam, & J. Audouze.* 361, 487, 164-B7 (1990)

FRANK, E. D. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

FRANK, J. Polarized Radiation from Extended Magnetic Polar Caps. *G. Chanmugam & J. Frank.* 320, 746, 118-A1 (1987)

The Magnetic Field of the Intermediate Polar BG Canis Minoris. *G. Chanmugam, J. Frank, A. R. King, & J.-P. Lasota.* 350, L13, 31-B11 (1990)

Polarized Radiation from Magnetic Accretion Rings. *J. Frank & G. Chanmugam.* 365, 660, 216-D8 (1990)

FRANK, JUHAN. On the Stability of Kuzmin/Toomre Disks. *Juhan Frank & Isaac Shlosman.* 346, 118, 167-E1 (1989)

FRANK, LOUIS A. Measurements of the Diffuse Ultraviolet Radiation. *John D. Fix, John D. Craven, & Louis A. Frank.* 345, 203, 151-F1 (1989)

FRANKLIN, JOEL. Distribution Functions for the Time-averaged Energies of Stochastically Excited Solar *p*-Modes. *Pawan Kumar, Joel Franklin, & Peter Goldreich.* 328, 879, 72-G3 (1988)

FRANSSON, C. Late Emission from SN 1987A. *C. Fransson & R. A. Chevalier.* 322, L15, 145-B2 (1987)

Narrow Ultraviolet Emission Lines from SN 1987A: Evidence for CNO Processing in the Progenitor. *C. Fransson, A. Cassatella, R. Gilmozzi, R. P. Kirshner, N. Panagia, G. Sonneborn, & W. Wamsteker.* 336, 429, 6-E1 (1989)

FRANSSON, CLAES. Probing the First Hours in the Life of SN 1987A. *Claes Fransson & Peter Lundqvist.* 341, L59, 99-G1 (1989)

Late Emission from Supernovae: A Window on Stellar Nucleosynthesis. *Claes Fransson & Roger A. Chevalier.* 343, 323, 122-B10 (1989)

FRANX, MARIJN. A Counterrotating Core in IC 1459. *Marijn Franx & Garth D. Illingworth.* 327, L55, 61-C2 (1988)

Kinematics of Gas in a Triaxial Galaxy. *Tim de Zeeuw & Marijn Franx.* 343, 617, 127-A1 (1989)

Major and Minor Axis Kinematics of 22 Ellipticals. *Marijn Franx, Garth Illingworth, & Timothy Heckman.* 344, 613, 142-B3 (1989)

Color Gradients in Elliptical Galaxies. *Marijn Franx & Garth Illingworth.* 359, L41, 144-B4 (1990)

FRAQUELLI, DOROTHY A. RICHFLD Photometry of NGC 6723. *Donald H. Martins & Dorothy A. Fraquelli.* 65, 83, 28-G2 (1987)

FRATI, W. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

FREEDMAN, W. L. The Infrared Structure of M33. *W. Rice, F. Boulanger, F. Viallefond, B. T. Soifer, & W. L. Freedman.* 358, 418, 128-G1 (1990)

FREEDMAN, WENDY L. New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. I. IC 1613. *Wendy L. Freedman.* 326, 691, 41-C1 (1988)

Distances to the Galaxies M81 and NGC 2403 from CCD *I* Band Photometry of Cepheids. *Wendy L. Freedman & Barry F. Madore.* 332, L63, 137-C4 (1988)

Observations of Individual Star-forming Regions in the Nucleus of M33. *Christine D. Wilson, Nick Scoville, Wendy L. Freedman, Barry F. Madore, & D. B. Sanders.* 333, 611, 146-F8 (1988)

Photographic, Near-Infrared, and CCD Photometry of the Distant Globular Cluster AM-1. *Barry F. Madore & Wendy L. Freedman.* 340, 812, 78-E1 (1989)

Local Calibrators for the Infrared Tully-Fisher Relation. *Wendy L. Freedman.* 355, L35, 98-C6 (1990)

An Empirical Test for the Metallicity Sensitivity of the Cepheid Period-Luminosity Relation. *Wendy L. Freedman & Barry F. Madore.* 365, 186, 208-E1 (1990)

FREELAND, SAMUEL L. Impulsive Phase Soft X-Ray Blueshifts at a Loop Footpoint. *Dominic M. Zarro, Gregory L. Slater, & Samuel L. Freeland.* 333, L99, 152-G2 (1988)

FREEMAN, K. Recurrent Outbursts in the Broad-Line Region of NGC 1566. *Danielle Alloin, Didier Pelat, M. M. Phillips, R. A. E. Fosbury, & K. Freeman.* 308, 23, 108-C2 (1986)

FREEMAN, K. C. Stellar Kinematics and the Stability of Disks in Spiral Galaxies. *P. C. van der Kruit & K. C. Freeman.* 303, 556, 48-E8 (1986)

The Velocity Dispersion of Old Stars in the Large Magellanic Cloud. *M. S. Bessell, K. C. Freeman, & P. R. Wood.* 310, 710, 141-F9 (1986)

NGC 5266: An Elliptical Galaxy with a Dust Ring. *S. R. Varnas, F. Bertola, G. Galletta, K. C. Freeman, & D. Carter.* 313, 69, 15-F12 (1987)

A Spectroscopic Determination of the Velocity Dispersion in the Galactic Bulge. *K. C. Freeman, G. de Vaucouleurs, A. de Vaucouleurs, & R. J. Wainscoat.* 325, 563, 26-F4 (1988)

Detailed Study of the Barred Spiral Galaxy NGC 4027. II. Internal Kinematics. *W. D. Pence, K. Taylor, K. C. Freeman, G. de Vaucouleurs, & P. Atherton.* 326, 564, 39-F6 (1988)

The Optical and Near-Infrared Distribution of Light in the Edge-on Galaxy IC 2531. *R. J. Wainscoat, K. C. Freeman, & A. R. Hyland.* 337, 163, 19-C1 (1989)

Field K Giants in Galactic Halo. II. Improved Abundance and Kinematic Parameters. *Kavan U. Ratnatunga & K. C. Freeman.* 339, 126, 51-E7 (1989)

Near-Infrared Surface Photometry of Three Early-Type, Edge-on Spiral Galaxies: NGC 4594, NGC 7123, and NGC 7814. *R. J. Wainscoat, A. R. Hyland, & K. C. Freeman.* 348, 85, 2-B1 (1990)

FREEMAN, KENNETH C. The Structure of Young Star Clusters in the Large Magellanic Cloud. *Rebecca A. W. Elson, S. Michael Fall, & Kenneth C. Freeman.* 323, 54, 153-F1 (1987)

DDO 154: A "Dark" Galaxy? *Claude Carignan & Kenneth C. Freeman.* 332, L33, 129-D11 (1988)

The Stellar Content of Rich Young Clusters in the Large Magellanic Cloud. *Rebecca A. W. Elson, S. Michael Fall, & Kenneth C. Freeman.* 336, 734, 11-E2 (1989)

The Internal Velocity Dispersions of Three Young Star Clusters in the Large Magellanic Cloud. *Robert H. Lupton, S. Michael Fall, Kenneth C. Freeman, & Rebecca A. W. Elson.* 347, 201, 184-E8 (1989)

Core Expansion in Young Clusters in the Large Magellanic Cloud. *Rebecca A. W. Elson, Kenneth C. Freeman, & Tod R. Lauer.* 347, L69, 199-C9 (1989)

FREEMAN, P. E. *EXOSAT* Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)

FREESE, KATHERINE. Superheavy Magnetic Monopoles and Main-Sequence Stars. *Joshua A. Frieman, Katherine Freese, & Michael S. Turner.* 335, 844, 182-A1 (1988)

Spectral Distortions of the Cosmic Microwave Background. *Fred C. Adams, Katherine Freese, Janna Levin, & Jonathan C. McDowell.* 344, 24, 133-C9 (1989)

FREHLICH, R. G. Refractive Scintillation in the Interstellar Medium. *W. A. Coles, R. G. Frehlich, B. J. Rickett, & J. L. Codona.* 315, 666, 48-A1 (1987)

FREIRE FERRERO, R. On the Line Emission Profile and Line Source Function in the Case of Partial Redistribution. *R. Freire Ferrero.* 314, 822, 38-E8 (1987)

FRENK, CARLOS S. Clusters, Filaments, and Voids in a Universe Dominated by Cold Dark Matter. *Simon D. M. White, Carlos S. Frenk, Marc Davis, & George Efstathiou.* 313, 505, 22-C11 (1987)

The Formation of Dark Halos in a Universe Dominated by Cold Dark Matter. *Carlos S. Frenk, Simon D. M. White, Marc Davis, & George Efstathiou.* 327, 507, 54-C1 (1988)

Galaxy Clusters and the Amplitude of Primordial Fluctuations. *Carlos S. Frenk, Simon D. M. White, George Efstathiou, & Marc Davis.* 351, 10, 38-B11 (1990)

FRENKLACH, MICHAEL. Formation of Polycyclic Aromatic Hydrocarbons in Circumstellar Envelopes. *Michael Frenklach & Eric D. Feigelson.* 341, 372, 88-D4 (1989)

FRERKING, MARGARET A. Multiple Star Formation and the Dynamical Evolution of B335. *William D. Langer, Margaret A. Frerking, & Robert W. Wilson.* 306, L29, 86-C1 (1986)

The Structure and Dynamics of Bok Globule B335. *Margaret A. Frerking, William D. Langer, & Robert W. Wilson.* 313, 320, 18-D10 (1987)

The Abundances of Atomic Carbon and Carbon Monoxide Compared with Visual Extinction in the Ophiuchus Molecular Cloud Complex. *Margaret A. Frerking, Jocelyn Keene, Geoffrey A. Blake, & T. G. Phillips.* 344, 311, 136-G10 (1989)

FREY, MADAI. Hyperfine Structure in the Barium Resonance Line: Curves of Growth for Solar and *r*-Process Isotopic Mixtures. *Charles R. Cowley & Madai Frey.* 346, 1030, 179-G7 (1989)

FRIBERG, P. Observations of SiO toward OMC-1: A New Outflow Source 1.5 South of Orion-KL? *L. M. Ziurys & P. Friberg.* 314, L49, 39-B12 (1987)

Observations of OCS and a Search for OC_3S in the Interstellar Medium. *H. E. Matthews, J. M. MacLeod, N. W. Broten, S. C. Madden, & P. Friberg.* 315, 646, 47-F7 (1987)

Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)

Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews, Y. Minh, S. Saito, N. Ukita, & S. Yamamoto.* 342, 871, 113-B5 (1989)

Interstellar SiO as a Tracer of High-Temperature Chemistry. *L. M. Ziurys, P. Friberg, & W. M. Irvine.* 343, 201, 120-F5 (1989)

Interstellar Cyanomethane. *B. E. Turner, P. Friberg, W. M. Irvine, S. Saito, & S. Yamamoto.* 355, 546, 95-C4 (1990)

FRIEDJUNG, M. First Unambiguous X-Ray Detection of R Aquarii. *R. Viotti, L. Piro, M. Friedjung, & A. Cassatella.* 319, L7, 100-A10 (1987)

FRIEDMAN, JOHN L. Rapidly Rotating Neutron Star Models. *John L. Friedman, James R. Ipser, & Leonard Parker.* 304, 115, 55-B11 (1986)

On the Maximum Mass of a Uniformly Rotating Neutron Star. *John L. Friedman & James R. Ipser.* 314, 594, 36-A13 (1987)

Turning Point Method for Axisymmetric Stability of Rotating Relativistic Stars. *John L. Friedman, James R. Ipser, & Rafael D. Sorkin.* 325, 722, 28-D10 (1988)

Rapidly Rotating Neutron Star Models: Erratum. *John L. Friedman, James R. Ipser, & Leonard Parker.* 351, 705, 48-G9 (1990) (Orig. paper in 304, 115, 55-B11 (1986))

FRIEDMAN, S. D. The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 325, 1, 19-A7 (1988)

The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz: Erratum. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F.*

Smoot, & C. Witebsky. 332, 1092, 136-D8 (1988) (Orig. paper in 325, 1, 19-A7 (1988))

FRIEDMAN, SCOTT D. New Measurements of the Cosmic Background Radiation Temperature at 3.3 Millimeter Wavelength. *Chris Witebsky, George Smoot, Giovanni De Amici, & Scott D. Friedman.* 310, 145, 133-E10 (1986)

Starlight Morphology of the Interacting Galaxy NGC 5195. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, R. D. Dietz, & Scott D. Friedman.* 362, 455, 176-B10 (1990)

FRIEL, EILEEN D. Chemical Composition of Open Clusters. I. Fe/H from High-Resolution Spectroscopy. *Ann Merchant Boesgaard & Eileen D. Friel.* 351, 467, 45-G10 (1990)

Chemical Composition of Open Clusters. II. C/H and C/Fe in F Dwarfs from High-Resolution Spectroscopy. *Eileen D. Friel & Ann Merchant Boesgaard.* 351, 480, 46-A11 (1990)

FRIEMAN, JOSHUA A. Superheavy Magnetic Monopoles and Main-Sequence Stars. *Joshua A. Frieman, Katherine Freese, & Michael S. Turner.* 335, 844, 182-A1 (1988)

FRIEND, D. B. Winds from Rotating, Magnetic, Hot Stars. III. The Azimuthal Velocity and Magnetic Force. *K. B. MacGregor & D. B. Friend.* 312, 659, 10-B6 (1987)

FRIEND, DAVID B. Polarization in Massive X-Ray Binaries. I. A Low-Inclination Model for Cygnus X-1. *David B. Friend & Joseph P. Cassinelli.* 303, 292, 44-C6 (1986)

A Rotating, Magnetic, Radiation-driven Wind Model Applied to Be Stars. *Clint H. Poe & David B. Friend.* 311, 317, 149-E8 (1986)

The Theory of Radiatively Driven Stellar Winds. III. Wind Models with Finite Disk Correction and Rotation. *David B. Friend & David C. Abbott.* 311, 701, 155-D8 (1986)

A Rotating, Magnetic, Radiation-driven Wind Model for Wolf-Rayet Stars. *Clint H. Poe, David B. Friend, & Joseph P. Cassinelli.* 337, 888, 30-A1 (1989)

A Radiation-driven Stellar Wind Model with a Line Force Cutoff. *Mark J. Abbott & David B. Friend.* 345, 505, 155-D2 (1989)

Terminal Velocities of the Winds from Rapidly Rotating OB Stars. *David B. Friend.* 353, 617, 71-E7 (1990)

FRISCH, H. A Model for the Penetration of Lyman Alpha in the Solar Chromosphere. *M. Faurobert, H. Frisch, & A. Skumanich.* 328, 856, 72-E6 (1988)

FRISCH, P. C. The Local Interstellar Medium. VII. The Local Interstellar Wind and Interstellar Material in Front of the Nearby Star α Ophiuchi. *P. C. Frisch, D. G. York, & J. R. Fowler.* 320, 842, 119-A10 (1987)

Ionization in Nearby Interstellar Gas. *P. C. Frisch, D. E. Welty, D. G. York, & J. R. Fowler.* 357, 514, 119-A5 (1990)

Studies of the Local Interstellar Medium. VIII. Morphology and Kinematics of the Diffuse Interstellar Clouds toward Orion. *P. C. Frisch, K. Sembach, & D. G. York.* 364, 540, 202-G4 (1990)

FRISCH, PRISCILLA C. Radial Velocities in Selected B–G Stars. *Priscilla C. Frisch.* 65, 313, 32-E9 (1987)

FRISTROM, CARL C. On the Number of Comets around Other Single Stars. *Charles Alcock, Carl C. Fristrom, & Russell Siegelman.* 302, 462, 33-C6 (1986)

Radiative Magnetized Thermal Conduction Fronts. *Kazimierz J. Borkowski, Steven A. Balbus, & Carl C. Fristrom.* 355, 501, 94-F7 (1990)

FRITZ, G. G. *Spartan 1* X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer Regions of the Cluster. *M. P. Ulmer, R. G. Cruddace, E. E. Fenimore, G. G. Fritz, & W. A. Snyder.* 319, 118, 94-C11 (1987)

Spartan 1 X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer Regions of the Cluster: Erratum. *M. P. Ulmer, R. G. Cruddace, E. E. Fenimore, G. G. Fritz, & W. A. Snyder.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 118, 94-C11 (1987))

X-Ray Observations of the Galactic Center by *Spartan 1. N. Kawai, E. E. Fenimore, J. Middleditch, R. G. Cruddace, G. G. Fritz, W. A. Snyder, & M. P. Ulmer.* 330, 130, 91-D11 (1988)

Spartan 1 X-Ray Observations of the Perseus Cluster. II. The Distribution of Flux and Hardness Ratio Out to a Radius of 50 Arcminutes. *W. A. Snyder, M. P. Kowalski, R. G. Cruddace, G. G. Fritz, J. Middleditch, E. E. Fenimore, M. P. Ulmer, & S. R. Majewski.* 365, 460, 213-F8 (1990)

FRITZ, K.-D. Diffusive Shock Acceleration of Energetic Electrons and the Method of Generations. *G. M. Webb & K.-D. Fritz.* 362, 419, 175-F5 (1990)

FRITZ, KLAUS-DIETER. An Explanation of Abrupt Infrared Cutoffs of Extragalactic Radio Sources by Shock-accelerated Particles Including Self-generated Turbulence. *Klaus-Dieter Fritz.* 347, 692, 191-G7 (1989)

Time-dependent Shock Acceleration of Energetic Electrons Including Synchrotron Losses. *Klaus-Dieter Fritz & Gary M. Webb.* 360, 387, 151-B1 (1990)

FROGEL, JAY A. Two Supergiants in the Large Magellanic Cloud with Thick Dust Shells. *J. H. Elias, Jay A. Frogel, & P. B. W. Schwering.* 302, 675, 38-A8 (1986)

IRAS 00521−7054: An Unusually Warm Galaxy. *Jay A. Frogel & J. H. Elias.* 313, L53, 27-B10 (1987)

Infrared Photometry and Spectroscopy of Supernova 1986g in NGC 5128–Centaurus A. *Jay A. Frogel, Brooke Gregory, Kimiaki Kawara, Dave Laney, M. M. Phillips, Don Terndrup, Frederick Vrba, & Albert E. Whitford.* 315, L129, 49-E11 (1987)

M Giants in Baade's Window: Infrared Colors, Luminosities, and Implications for the Stellar Content of E and S0 Galaxies. *Jay A. Frogel & A. E. Whitford.* 320, 199, 110-C10 (1987)

Red Variables in Globular Clusters: Their Classification and Evidence for Mass Loss. *Jay A. Frogel & J. H. Elias.* 324, 823, 12-D6 (1988)

Luminous M Giants in the Bulge of M31. *R. Michael Rich, Jeremy Mould, Alain Picard, Jay A. Frogel, & Roger Davies.* 341, L51, 99-F4 (1989)

IRAS 20460+1925: An Extreme Seyfert 2 and One of the Most Luminous Galaxies Known. *Jay A. Frogel, F. C. Gillett, D. M. Terndrup, & J. Patricia Vader.* 343, 672, 127-E1 (1989)

The Asymptotic Giant Branch of Magellanic Cloud Clusters. *Jay A. Frogel, Jeremy Mould, & V. M. Blanco.* 352, 96, 51-C5 (1990)

Galactic Bulge M Giants. II. Content and Structure of the Bulge between $b = -3°$ and $-12°$. *Jay A. Frogel, D. M. Terndrup, V. M. Blanco, & A. E. Whitford.* 353, 494, 70-B8 (1990)

Galactic Bulge M Giants. III. Near-Infrared Spectra and Implications for the Stellar Content of E and S0 Galaxies. *D. M. Terndrup, Jay A. Frogel, & A. E. Whitford.* 357, 453, 118-C1 (1990)

The Large Magellanic Cloud Bar West Field. *Jay A. Frogel & V. M. Blanco.* 365, 168, 208-C1 (1990)

FROMMHOLD, LOTHAR. Theoretical Collision-induced Rototranslational Absorption Spectra for Modeling Titan's Atmosphere: H_2–N_2 Pairs. *Aleksandra Borysow & Lothar Frommhold.* 303, 495, 46-D13 (1986)

Theoretical Collision-induced Rototranslational Absorption Spectra for the Outer Planets: H_2-CH_4 Pairs. *Aleksandra Borysow & Lothar Frommhold.* 304, 849, 65-E1 (1986)

Collision-induced Rototranslational Absorption Spectra of N_2–N_2 Pairs for Temperatures from 50 to 300 K. *Aleksandra Borysow & Lothar Frommhold.* 311, 1043, 159-C6 (1986)

Collision-induced Rototranslational Absorption Spectra of CH_4-CH_4 Pairs at Temperatures from 50 to 300 K. *Aleksandra Borysow & Lothar Frommhold.* 318, 940, 91-C2 (1987)

Collision-induced Rototranslational Absorption Spectra of N_2–N_2 Pairs for Temperatures from 50 to 300 K: Erratum. *Aleksandra Borysow & Lothar Frommhold.* 320, 437, 112-G4 (1987) (Orig. paper in 311, 1043, 159-C6 (1986))

Collision-induced Rototranslational Absorption Spectra of H_2-He Pairs at Temperatures from 40 to 3000 K. *Jacek Borysow, Lothar Frommhold, & George Birnbaum.* 326, 509, 37-G6 (1988)

Collision-induced Infrared Spectra of H_2-He Pairs Involving $0 \leftrightarrow 1$ Vibrational Transitions and Temperatures from 18 to 7000 K. *Aleksandra Borysow, Lothar Frommhold, & Massimo Moraldi.* 336, 495, 7-C13 (1989)

Collision-induced Infrared Spectra of H_2-He Pairs at Temperatures from 18 to 7000 K. II. Overtone and Hot Bands. *Aleksandra Borysow & Lothar Frommhold.* 341, 549, 90-E9 (1989)

A New Computation of the Infrared Absorption by H_2 Pairs in the Fundamental Band at Temperatures from 600 to 5000 K. *Aleksandra Borysow & Lothar Frommhold.* 348, L41, 6-E1 (1990)

FRONTERA, F. Time Variability of Gamma Cassiopeiae in X-Rays. *F. Frontera, D. Dal Fiume, N. R. Robba, G. Manzo, S. Re, & E. Costa.* 320, L127, 121-D13 (1987)

The X-Ray Pulsar A0535+26 in Hard X-Rays: Average Spectrum, Pulse Phase Spectroscopy, and Spectral Time Variability. *D. Dal Fiume, F. Frontera, & E. Morelli.* 331, 313, 109-F1 (1988)

Observations of Galactic and Extragalactic High-Energy X-Ray Sources. *G. Matt, E. Costa, D. Dal Fiume, W. Dusi, F. Frontera, & E. Morelli.* 355, 468, 94-C1 (1990)

FRUCHTER, A. S. The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

Observations of the Eclipsing Binary Pulsar in Terzan 5. *D. J. Nice, S. E. Thorsett, J. H. Taylor, & A. S. Fruchter.* 361, L61, 168-D7 (1990)

The Integrated Flux Density of Pulsars in Globular Clusters. *A. S. Fruchter & W. M. Goss.* 365, L63, 219-D1 (1990)

FRUEH, MARIAN. The Far-Infrared and Optical Structure of Arp 220. *Marshall Joy, Daniel F. Lester, Paul M. Harvey, & Marian Frueh.* 307, 110, 96-B14 (1986)

FRUEH, MARIAN L. Contemporaneous Photometry and Radial Velocities of RR Lyrae Stars. *Thomas G. Barnes III, Thomas J. Moffett, Suzanne L. Hawley, Mark H. Slovak, & Marian L. Frueh.* 67, 403, 17-E1 (1988)

FRY, J. N. An Independent Test of Biased Galaxy Formation with Cold Particles: The Three-Point Function. *Adrian L. Melott & J. N. Fry.* 305, 1, 67-A7 (1986)

Statistics of Voids in Hierarchical Universes. *J. N. Fry.* 306, 358, 88-D5 (1986)

On Statistical Searches for Filaments. *J. N. Fry.* 306, 366, 88-D13 (1986)

Nonlinear Statistics and Biasing. *J. N. Fry.* 308, L71, 120-G5 (1986)

Void Statistics, Scaling, and the Origins of Large-Scale Structure. *J. N. Fry, Riccardo Giovanelli, Martha P. Haynes, Adrian L. Melott, & Robert J. Scherrer.* 340, 11, 67-B4 (1989)

FRY, W. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

FRY, W. F. Anomalous Periodicity in the Very High Energy Gamma-Ray Sources. *P. Slane & W. F. Fry.* 342, 1129, 116-B1 (1989)

FRYE, G. Hard X-Ray Spectrum of Supernova 1987A on Day 407. *P. Ubertini, A. Bazzano, R. Sood, R. Staubert, T. J. Sumner, & G. Frye.* 337, L19, 25-B11 (1989)

FRYXELL, B. A. Numerical Simulations of Adiabatic Axisymmetric Accretion Flow. I. A New Mechanism for the Formation of Jets. *B. A. Fryxell, Ronald E. Taam, & S. L. W. McMillan.* 315, 536, 46-E5 (1987)

On Nonsteady Accretion in Stellar Wind–fed X-Ray Sources. *Ronald E. Taam & B. A. Fryxell.* 327, L73, 61-D6 (1988)

A Model for the Recurrent Flares in EXO 2030+375. *Ronald E. Taam, B. A. Fryxell, & D. A. Brown.* 331, L117, 121-G5 (1988)

Numerical Simulations of Nonaxisymmetric Adiabatic Accretion Flow. *B. A. Fryxell & Ronald E. Taam.* 335, 862, 182-B5 (1988)

Numerical Studies of Asymmetric Adiabatic Accretion Flow: The Effect of Velocity Gradients. *Ronald E. Taam & B. A. Fryxell.* 339, 297, 53-F1 (1989)

FRYXELL, BRUCE. Instabilities and Nonradial Motion in SN 1987A. *David Arnett, Bruce Fryxell, & Ewald Müller.* 341, L63, 99-G6 (1989)

FRYXELL, BRUCE A. Herbig-Haro Objects as the Heads of Radiative Jets. *John M. Blondin, Arieh Königl, & Bruce A. Fryxell.* 337, L37, 25-D1 (1989)

Hydrodynamic Simulations of Stellar Wind Disruption by a Compact X-Ray Source. *John M. Blondin, Timothy R. Kallman, Bruce A. Fryxell, & Ronald E. Taam.* 356, 591, 107-E9 (1990)

The Structure and Evolution of Radiatively Cooling Jets. *John M. Blondin, Bruce A. Fryxell, & Arieh Königl.* 360, 370, 150-G7 (1990)

FTACLAS, C. On the Application of a Spherical Infall Model to the Local Supercluster. *H. Lee, Y. Hoffman, & C. Ftaclas.* 304, L11, 61-A13 (1986)

The Effect of Gravitational Lensing on Pulsed Emission from Neutron Stars Exhibiting Quasi-Periodic Oscillation. *K. S. Wood, C. Ftaclas, & M. Kearney.* 324, L63, 18-C10 (1988)

FTACLAS, CHRIST. Hot Spots on Neutron Stars. II. The Observer's Sky. *Christ Ftaclas, Michael W. Kearney, & Kay Pechenick.* 300, 203, 3-C3 (1986)

FU, ALBERT. The Thermodynamics of Anisotropic Radiating Systems. *Albert Fu.* 323, 211, 155-D1 (1987)

Physical Constraints on Variable Eddington Factors for the Gray Problem in Radiative Transfer. *Albert Fu.* 323, 227, 155-E3 (1987)

The Late Behavior of Supernova 1987A. I. The Light Curve. *W. David Arnett & Albert Fu.* 340, 396, 72-B9 (1989)

The Late Behavior of Supernova 1987A. II. Gamma-Ray Transparency of the Ejecta. *Albert Fu & W. David Arnett.* 340, 414, 72-D1 (1989)

The Spectra of Relativistic Accretion Disks: Application to A0620−00. *Albert Fu & Ronald E. Taam.* 349, 553, 22-B9 (1990)

The Spectra of Weakly Magnetized Neutron Stars. *Albert Fu & Ronald E. Taam.* 353, 205, 64-F3 (1990)

FU, ALBERT J. Supernova Colors and Systematic Flux Dilution. *Albert J. Fu & W. David Arnett.* 307, 726, 105-A1 (1986)

FU, Q.-J. Coronal Bright Points at 6 and 20 Centimeter Wavelengths. *M. R. Kundu, E. J. Schmahl, & Q.-J. Fu.* 325, 905, 30-D8 (1988)

Microwave Evidence for Large-Scale Changes Associated with a Filament Eruption. *M. R. Kundu, E. J. Schmahl, & Q.-J. Fu.* 336, 1078, 15-G1 (1989)

FUJII, H. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

FUJII, M. Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

FUJII, Z. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

FUJIMOTO, M. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

FUJIMOTO, MASAYUKI Y. Relaxation Oscillations of a Helium-burning Star: Helium Shell Flashes Not Triggered by the Accumulation of

a Critical Mass. *Icko Iben, Jr., Masayuki Y. Fujimoto, Daiichiro Sugimoto, & Shigeki Miyaji.* 304, 217, 56-C8 (1986)

The Mass and Radius of a Neutron Star in X-Ray Burster MXB 1636–536. *Masayuki Y. Fujimoto & Ronald E. Taam.* 305, 246, 69-F4 (1986)

Thermal Evolution of Accreting Neutron Stars. II. Long X-Ray Bursts as a Probe into the Interior. *Masayuki Y. Fujimoto, Tomoyuki Hanawa, Icko Iben, Jr., & Martin B. Richardson.* 315, 198, 42-B9 (1987)

On the Theory of Type I X-Ray Bursts. The Energetics of Bursts and the Nuclear Fuel Reservoir in the Envelope. *Masayuki Y. Fujimoto, Mirek Sztajno, Walter H. G. Lewin, & Jan van Paradijs.* 319, 902, 104-G5 (1987)

Angular Distribution of Radiation from Low-Mass X-Ray Binaries. *Masayuki Y. Fujimoto.* 324, 995, 14-D12 (1988)

Behavior of Low-Mass, Main-Sequence Stars in Response to Accretion. *Masayuki Y. Fujimoto & Icko Iben, Jr.* 341, 306, 87-F3 (1989)

Helium Flashes and Hydrogen Mixing in Low-Mass Population III Stars. *Masayuki Y. Fujimoto, Icko Iben, Jr., & David Hollowell.* 349, 580, 22-E1 (1990)

Hydrogen Burning and Dredge-up during the Major Core Helium Flash in a $Z = 0$ Model Star. *David Hollowell, Icko Iben, Jr., & Masayuki Y. Fujimoto.* 351, 245, 41-B1 (1990)

FUJIMOTO, MITSUAKI. A Shocked-Jet Model of the Galactic Center Bridge and the Radio Arc. *Yoshiaki Sofue & Mitsuaki Fujimoto.* 319, L73, 107-D11 (1987)

FUJITA, MASAYA. Statistical Analysis of Peculiar Velocity Fields in Cosmological *N*-Body Simulations. *Yasushi Suto & Masaya Fujita.* 360, 7, 145-B8 (1990)

FUJITA, YOSHIHISA. Detection of a New Circumstellar Carbon Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)

FUKI, M. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

FUKUDA, Y. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

FUKUGITA, M. Rotating Stellar Collapse Model for Supernova SN 1987A. *T. Nakamura & M. Fukugita.* 337, 466, 23-C8 (1989)

Reaction Cross Section for "Solar Flare Neutrinos" with ^{37}Cl and ^{16}O Targets. *M. Fukugita, Y. Kohyama, K. Kubodera, & T. Kuramoto.* 337, L59, 25-E11 (1989)

Upper Limit on the Cosmological Baryon Density from the Cosmic Background Radiation Anisotropies in the Cold Dark Matter–dominated Universe. *M. Fukugita & M. Umemura.* 339, L1, 58-A6 (1989)

Unstable Neutrino Reheating of the Universe and Distortion of Cosmic Background Radiation Spectrum. *M. Fukugita, M. Kawasaki, & T. Yanagida.* 342, L1, 109-A6 (1989)

Unstable Neutrino Reheating of the Universe and Distortion of Cosmic Background Radiation Spectrum: Erratum. *M. Fukugita, M. Kawasaki, & T. Yanagida.* 345, L103, 165-D5 (1989) (Orig. paper in 342, L1, 109-A6 (1989))

Reheating of the Universe by Unstable Neutrinos and Cosmic Background Radiation Distortion. *M. Fukugita & M. Kawasaki.* 353, 384, 68-G5 (1990)

Constraints on Cold Dark Matter–dominated Universes from Cosmic Background Radiation Anisotropies. *M. Fukugita, N. Sugiyama, & M. Umemura.* 358, 28, 122-D1 (1990)

Test for the Cosmological Constant with the Number Count of Faint Galaxies. *M. Fukugita, F. Takahara, K. Yamashita, & Y. Yoshii.* 361, L1, 161-C7 (1990)

FUKUI, Y. ^{13}CO in Orion. *K. Sugitani, Y. Fukui, H. Ogawa, & K. Kawabata.* 303, 667, 49-G3 (1986)

Discovery of Seven Bipolar Outflows by an Unbiased Survey. *Y. Fukui, K. Sugitani, H. Takaba, T. Iwata, A. Mizuno, H. Ogawa, & K. Kawabata.* 311, L85, 160-E12 (1986)

Molecular Line Study of a Bipolar Outflow Object NGC 2071–NORTH in L1630. *T. Iwata, Y. Fukui, & H. Ogawa.* 325, 372, 23-C7 (1988)

A Bipolar Outflow: L1641-North and Its Ambient Dense Cloud. *Y. Fukui, H. Takaba, T. Iwata, & A. Mizuno.* 325, L13, 25-B4 (1988)

Flux Densities of Ultracompact H II Regions at 7 Millimeters. *Douglas O. S. Wood, T. Handa, Y. Fukui, E. Churchwell, Y. Sofue, & T. Iwata.* 326, 884, 43-C2 (1988)

Star Formation in Bright-rimmed Globules: Evidence for Radiation-driven Implosion. *K. Sugitani, Y. Fukui, A. Mizuno, & N. Ohashi.* 342, L87, 117-E5 (1989)

A Remarkable Multilobe Molecular Outflow: ρ Ophiuchi East, Associated with IRAS 16293–2422. *A. Mizuno, Y. Fukui, T. Iwata, S. Nozawa, & T. Takano.* 356, 184, 101-D1 (1990)

FUKUI, YASUO. Infrared Reflection Nebulae around GL 490 and R Monocerotis: Shell Structure and Possible Large Dust Grains. *Takuya Yamashita, Shuji Sato, Tetsuya Nagata, Ian Gatley, Saeko S. Hayashi, & Yasuo Fukui.* 336, 832, 12-G2 (1989)

High-Resolution CO Observations of NGC 1068. *Noboru Kaneko, Kazuhiko Morita, Yasuo Fukui, Koji Sugitani, Takahiro Iwata, Naomasa Nakai, Norio Kaifu, & Harvey S. Liszt.* 337, 691, 27-E7 (1989)

Two Molecular Outflows in L1251. *Fumio Sato & Yasuo Fukui.* 343, 773, 128-G1 (1989)

A Further Study of the Molecular Cloud Associated with the Supernova Remnant G109.1–1.0. *Ken'ichi Tatematsu, Yasuo Fukui, Takahiro Iwata, Frederick D. Seward, & Makoto Nakano.* 351, 157, 40-A4 (1990)

A Newly Discovered Molecular Cloud in Cepheus OB4. *Ji Yang, Yasuo Fukui, Tomofumi Umemoto, Hideo Ogawa, & Hua Chen.* 362, 538, 177-D5 (1990)

FULBRIGHT, MICHAEL S. Bipolar Supernova Remnants and the Obliquity Dependence of Shock Acceleration. *Michael S. Fulbright & Stephen P. Reynolds.* 357, 591, 120-A3 (1990)

FULLER, CHARLES E. Observations of the 157.7 Micron [C II] Emission from the Galactic H II Regions W3 and W51. *Gary Melnick, Gordon J. Stacey, Paul J. Viscuso, & Charles E. Fuller.* 303, 638, 49-E1 (1986)

Extremely Luminous Far-Infrared Colliding Galaxies—Computation of Colliding-Galaxy Luminosity Function. *Martin Harwit & Charles E. Fuller.* 328, 111, 63-C1 (1988)

FULLER, G. M. The Evolution of Radiation-dominated Stars. I. Nonrotating Supermassive Stars. *G. M. Fuller, S. E. Woosley, & T. A. Weaver.* 307, 675, 104-C11 (1986)

The Quark-Hadron Phase Transition and Primordial Nucleosynthesis. *C. R. Alcock, G. M. Fuller, & G. J. Mathews.* 320, 439, 114-C1 (1987)

Resonant Neutrino Oscillations and Stellar Collapse. *G. M. Fuller, R. W. Mayle, J. R. Wilson, & D. N. Schramm.* 322, 795, 148-E3 (1987)

The Majoron Model and Stellar Collapse. *G. M. Fuller, R. Mayle, & J. R. Wilson.* 332, 826, 133-D14 (1988)

Galactic Chemical Evolution with Low and High Primordial Lithium. *G. J. Mathews, C. R. Alcock, & G. M. Fuller.* 349, 449, 20-G1 (1990)

Deviation from Periodicity in the Large-Scale Distribution of Galaxies. *H. Kurki-Suonio, G. J. Mathews, & G. M. Fuller.* 356, L5, 103-B11 (1990)

Coupled Baryon Diffusion and Nucleosynthesis in the Early Universe. *G. J. Mathews, B. S. Meyer, C. R. Alcock, & G. M. Fuller.* 358, 36, 122-D11 (1990)

Primordial Nucleosynthesis of Intermediate-Mass Elements in Baryon-Number–inhomogeneous Big Bang Models: Observational Tests. *T. Kajino, G. J. Mathews, & G. M. Fuller.* 364, 7, 194-B6 (1990)

FULLER, GARY A. Near-Infrared and Optical Observations of IRAS Sources in and near Dense Cores. *P. C. Myers, Gary A. Fuller, R. D. Mathieu, C. A. Beichman, P. J. Benson, R. E. Schild, & J. P. Emerson.* 319, 340, 96-F5 (1987)

L43: An Example of Interaction between Molecular Outflows and Dense Cores. *Robert D. Mathieu, Priscilla J. Benson, Gary A. Fuller, Philip C. Myers, & Rudolph E. Schild.* 330, 385, 94-E1 (1988)

A CS Survey of Low-Mass Cores and Comparison with NH_3 Observations. *Shudong Zhou, Yuefang Wu, Neal J. Evans II, Gary A. Fuller, & Philip C. Myers.* 346, 168, 168-B11 (1989)

Submillimeter Photometry and Disk Masses of T Tauri Disk Systems. *Fred C. Adams, James P. Emerson, & Gary A. Fuller.* 357, 606, 120-B5 (1990)

FULLERTON, ALEX. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

FULLERTON, ALEXANDER W. The Nonradial Oscillations of ϵ Persei. II. Nonlinear Characteristics. *Myron A. Smith, Alexander W. Fullerton, & John R. Percy.* 320, 768, 118-B10 (1987)

FUNCK, C. The $^{14}C(\alpha,\gamma)^{18}O$ Reaction at Astrophysical Energies. *C. Funck & K. Langanke.* 344, 46, 133-E7 (1989)

FUQUA, JOSEPH B. Two-Temperature Pumping of H_2O Masers. *Moshe Elitzur & Joseph B. Fuqua.* 347, L35, 189-E1 (1989)

FURENLID, INGEMAR. Spectroscopy of the Optical Photosphere of the Hot Pulsating Star BW Vulpeculae. *Ingemar Furenlid, Arthur Young, Thomas Meylan, Chester Haag, & Greg Crinklaw.* 319, 264, 95-G9 (1987)

An Abundance Analysis of α Centauri A. *Ingemar Furenlid & Tom Meylan.* 350, 827, 36-C1 (1990)

FURTON, D. G. The Spatial Distribution of Extended Red Emission in the Planetary Nebula NGC 7027. *D. G. Furton & A. N. Witt.* 364, L45, 205-E1 (1990)

FUSCO-FEMIANO, R. Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)

FUSELIER, STEPHEN. Energetic Ion Fluxes in the Inner Coma of Comet P/Halley. *Aharon Eviatar, Raymond Goldstein, David T. Young, Hans Balsiger, Helmut Rosenbauer, & Stephen Fuselier.* 339, 545, 56-E13 (1989)

FUSHIKI, I. Surface Structure of Neutron Stars with High Magnetic Fields. *I. Fushiki, E. H. Gudmundsson, & C. J. Pethick.* 342, 958, 114-B8 (1989)

FUSHIKI, IKKO. *S*-Matrix Calculation of the Triple-Alpha Reaction. *Ikko Fushiki & D. Q. Lamb.* 317, 368, 68-A1 (1987)

New Insights from a Global View of X-Ray Bursts. *Ikko Fushiki & D. Q. Lamb.* 323, L55, 158-D10 (1987)

FUSI PECCI, FLAVIO. Low-Luminosity Stellar Mass Functions in Globular Clusters. *Harvey B. Richer, Gregory G. Fahlman, Roberto Buonanno, & Flavio Fusi Pecci.* 359, L11, 138-B3 (1990)

GABUZDA, D. C. Linear Polarization Structure of the BL Lacertae Object OJ 287 at Milliarcsecond Resolution. *D. H. Roberts, D. C. Gabuzda, & J. F. C. Wardle.* 323, 536, 160-E5 (1987)

Superluminal Motion in the BL Lacertae Object OJ 287. *D. C. Gabuzda, J. F. C. Wardle, & D. H. Roberts.* 336, L59, 16-F1 (1989)

Linear Polarization Structure of the BL Lacertae Object 0735+178 at Milliarcsecond Resolution. *D. C. Gabuzda, J. F. C. Wardle, & D. H. Roberts.* 338, 743, 43-A10 (1989)

The Milliarcsecond Polarization Structure of Six BL Lacertae Objects. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 347, 701, 192-A5 (1989)

Milliarcsecond Polarization Structure of the Superluminal Quasar 3C 273. *D. H. Roberts, R. I. Kollgaard, L. F. Brown, D. C. Gabuzda, & J. F. Wardle.* 360, 408, 151-D1 (1990)

GADA, ANDREAS. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

GAEBLER, J. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

GAETZ, T. J. Gasdynamical Stripping of Elliptical Galaxies. *T. J. Gaetz, E. E. Salpeter, & G. Shaviv.* 316, 530, 57-G3 (1987)

Stability of Radiative Shocks with Time-dependent Cooling. *T. J. Gaetz, Richard J. Edgar, & Roger A. Chevalier.* 329, 927, 87-C3 (1988)

Evolution of Cooling Flows: Numerical Models with Conduction. *T. J. Gaetz.* 345, 666, 159-A7 (1989)

A Charge Moment Method for Time-dependent Radiative Cooling of Hot Optically Thin Plasmas. *T. J. Gaetz.* 353, 245, 65-B5 (1990)

GAFFNEY, N. A Near-Infrared Spectroscopic Study of the Starburst Core of M82. *D. F. Lester, J. S. Carr, M. Joy, & N. Gaffney.* 352, 544, 57-G3 (1990)

GAIDOS, J. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

GAISSER, T. K. Effects of High-Energy Neutrino Production and Interactions on Stars in Close X-Ray Binaries. *T. K. Gaisser, F. W. Stecker, A. K. Harding, & J. J. Barnard.* 309, 674, 128-F1 (1986)

Signatures of Particle Acceleration at SN 1987A. *T. K. Gaisser, Alice K. Harding, & Todor Stanev.* 345, 423, 154-D4 (1989)

Acceleration by Pulsar Winds in Binary Systems. *Alice K. Harding & T. K. Gaisser.* 358, 561, 130-E1 (1990)

GAIZAUSKAS, V. Compact Sites of Microwave Emission at 2.8 Centimeter Wavelength inside Solar Active Regions. *V. Gaizauskas & K. F. Tapping.* 325, 912, 30-E8 (1988)

GAJEWSKI, W. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

GAKOVIC, B. Surface Waves in an Incompressible Fluid: Resonant Instability Due to Velocity Shear. *Joseph V. Hollweg, G. Yang, V. M. Cadez, & B. Gakovic.* 349, 335, 18-A7 (1990)

GALEOTTI, P. High-Energy Neutrinos from Cygnus X-3. *V. S. Berezinsky, C. Castagnoli, & P. Galeotti.* 301, 235, 16-E1 (1986)

GALLAGHER, J. Interstellar Absorption Lines in the Galaxy NGC 1705. *D. G. York, A. Caulet, P. Rybski, J. Gallagher, J. C. Blades, D. C. Morton, & W. Wamsteker.* 351, 412, 45-B9 (1990)

GALLAGHER, J. S. The Extent of Nebular Emission Associated with the $z = 0.525$ Absorber near AO 0235+164. *Brian Yanny, Donald G. York, & J. S. Gallagher.* 338, 735, 43-A1 (1989)

GALLAGHER, JOHN S., III. *IRAS* Observations of a Small Sample of Blue Irregular Galaxies. *Deidre A. Hunter, Fred C. Gillett, John S. Gallagher III, Walter L. Rice, & Frank J. Low.* 303, 171, 42-G14 (1986)

Spectrophotometry of Three Faint Blue Galaxies in Selected Area 57. *John S. Gallagher III & Donald Hamilton.* 330, 661, 99-F6 (1988)

A Case Study of Large-Scale Structure in a "Hot" Model Universe. *Joan M. Centrella, John S. Gallagher III, Adrian L. Melott, & Howard A. Bushouse.* 333, 24, 138-C4 (1988)

IRAS Observations of a Large Sample of Normal Irregular Galaxies. *Deidre A. Hunter, John S. Gallagher III, Walter L. Rice, & Fred C. Gillett.* 336, 152, 3-A1 (1989)

A Search with a Fiber-optic Array for Emission near QSO Absorbers. *Brian Yanny, Sam Barden, John S. Gallagher III, & D. G. York.* 352, 413, 56-C3 (1990)

Selective Loss of Metals from Low-Mass Galaxies. *David S. De Young & John S. Gallagher III.* 356, L15, 103-C7 (1990)
Properties of Ionized Interstellar Froth in Irregular Galaxies. *Deidre A. Hunter & John S. Gallagher III.* 362, 480, 176-E5 (1990)
GALLETTA, G. NGC 5266: An Elliptical Galaxy with a Dust Ring. *S. R. Varnas, F. Bertola, G. Galletta, K. C. Freeman, & D. Carter.* 313, 69, 15-F12 (1987)
Detection of Retrograde Gas Streaming in the SB0 Galaxy NGC 4546. *G. Galletta.* 318, 531, 86-F3 (1987)
GALLINO, R. Are *s*-Elements Really Produced during Thermal Pulses in Intermediate-Mass Stars? *M. Busso, G. Picchio, R. Gallino, & A. Chieffi.* 326, 196, 34-C5 (1988)
On the Role of Low-Mass Asymptotic Giant Branch Stars in Producing a Solar System Distribution of *s*-Process Isotopes. *R. Gallino, M. Busso, G. Picchio, C. M. Raiteri, & A. Renzini.* 334, L45, 161-E5 (1988)
s-Process Nucleosynthesis: Classical Approach and Asymptotic Giant Branch Models for Low-Mass Stars. *F. Käppeler, R. Gallino, M. Busso, G. Picchio, & C. M. Raiteri.* 354, 630, 84-B7 (1990)
GALT, J. A. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)
GAMMIE, C. F. A Very Fast Molecular Outflow from the Proto–Planetary Nebula CRL 618. *C. F. Gammie, G. R. Knapp, K. Young, T. G. Phillips, & E. Falgarone.* 345, L87, 165-C1 (1989)
GAMMIE, CHARLES. The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)
GAN, W. Q. A Hydrodynamic Model of the Gradual Phase of the Solar Flare Loop. *W. Q. Gan & C. Fang.* 358, 328, 126-B7 (1990)
GANEZER, K. S. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)
GANGOPADHYAY, P. The Hydrogen Density of the Local Interstellar Medium and an Upper Limit to the Galactic Glow Determined from *Pioneer 10* Ultraviolet Photometer Observations. *F. M. Wu, P. Gangopadhyay, H. S. Ogawa, & D. L. Judge.* 331, 1004, 120-A11 (1988)
The Heliospheric Hydrogen Density Profile in the Presence of a Solar Wind Shock. *P. Gangopadhyay & D. L. Judge.* 336, 999, 15-A1 (1989)
Evidence of a Nearby Solar Wind Shock as Obtained from Distant *Pioneer 10* Ultraviolet Glow Data. *P. Gangopadhyay, H. S. Ogawa, & D. L. Judge.* 336, 1012, 15-B1 (1989)
GAO, YI-TIAN. Fine-Scale Anisotropy of Cosmic γ-Ray Background to Identify the Underlying Generation Process. *David B. Cline & Yi-Tian Gao.* 348, 33, 1-D10 (1990)
Fine-Scale Anisotropy of Cosmic γ-Ray Background to Identify the Underlying Generation Process: Erratum. *David B. Cline & Yi-Tian Gao.* 356, 744, 109-D9 (1990) (Orig. paper in 348, 33, 1-D10 (1990))
The Cosmological Evolution Models of Active Galaxies and the Extragalactic Gamma-Ray Background. *Yi-Tian Gao, David B. Cline, & Floyd W. Stecker.* 357, L1, 115-B1 (1990)
Large-Scale Anisotropy in the Extragalactic Gamma-Ray Background as a Probe for Cosmological Antimatter. *Yi-Tian Gao, Floyd W. Stecker, Marcelo Gleiser, & David B. Cline.* 361, L37, 168-B1 (1990)
GARAY, G. Sandqvist 187: A Dense Molecular Cloud in Norma. *H. Alvarez, L. Bronfman, R. Cohen, G. Garay, J. Graham, & P. Thaddeus.* 300, 756, 11-D8 (1986)
A Complete Survey of the Large Magellanic Cloud. *R. S. Cohen, T. M. Dame, G. Garay, J. Montani, M. Rubio, & P. Thaddeus.* 331, L95, 121-E11 (1988)
Large Proper Motions in the Remarkable Triple Radio Source in Serpens. *L. F. Rodríguez, S. Curiel, J. M. Moran, I. F. Mirabel, M. Roth, & G. Garay.* 346, L85, 181-D9 (1989)
GARAY, GUIDO. Rotating and Expanding Ultracompact H II Regions. *Guido Garay, Luis F. Rodríguez, & J. H. van Gorkom.* 309, 553, 127-C4 (1986)
Compact Continuum Radio Sources in the Orion Nebula. *Guido Garay, James M. Moran, & Mark J. Reid.* 314, 535, 35-D2 (1987)
The Orion-KL Super Water Maser. *Guido Garay, J. M. Moran, & A. D. Haschick.* 338, 244, 36-A1 (1989)
The Distance to NGC 6302. *Yolanda Gómez, James M. Moran, Luis F. Rodríguez, & Guido Garay.* 345, 862, 161-C10 (1989)
The Compact Molecular Core toward G34.3+0.2: VLA Observations in the (2,2) and (3,3) Lines of Ammonia. *Guido Garay & Luis F. Rodríguez.* 362, 191, 171-E5 (1990)
GARCÍA, BEATRIZ. Spectroscopic Binary Frequency among CNO Stars. *Hugo Levato, Nidia Morrell, Beatriz García, & Stella Malaroda.* 68, 319, 27-G1 (1988)
Spectroscopic Binaries in the Open Cluster Collinder 228. *Hugo Levato, Stella Malaroda, Beatriz García, Nidia Morrell, & Gladys Solivella.* 72, 323, 6-E1 (1990)
GARCÍA, DOMINGO. Can C+O White Dwarfs Form Neutron Stars? *Ramon Canal, Domingo García, Jordi Isern, & Javier Labay.* 356, L51, 110-C1 (1990)
GARCIA, HOWARD A. The Relationship of Sunspot Magnetic Fields to Umbral Sizes in Return Flux Theory. *Vladimir A. Osherovich & Howard A. Garcia.* 336, 468, 7-A3 (1989)
GARCIA, M. R. Simultaneous X-Ray and Radio Observations of GX 13+1. *M. R. Garcia, J. E. Grindlay, L. A. Molnar, L. Stella, N. E. White, & E. R. Seaquist.* 328, 552, 69-B12 (1988)
Four X-Ray–selected Cataclysmic Variables in the Galactic Plane. *P. Hertz, C. D. Bailyn, J. E. Grindlay, M. R. Garcia, H. Cohn, & P. M. Lugger.* 364, 251, 197-B8 (1990)
GARCIA, MICHAEL R. Discovery of an X-Ray Burst from 4U 2129+47. *Michael R. Garcia & Jonathan E. Grindlay.* 313, L59, 27-C1 (1987)
SAS 3 and *Einstein* Observations of the 11 Minute Orbital Period of the Globular Cluster X-Ray Source 4U 1820–30. *Edward H. Morgan, Ronald A. Remillard, & Michael R. Garcia.* 324, 851, 12-F9 (1988)
Is 4U 2129+47 (= V1727 Cygni) a Triple System? *Michael R. Garcia, Charles D. Bailyn, Jonathan E. Grindlay, & Lawrence A. Molnar.* 341, L75, 100-A5 (1989)
Outflow from the Outer Lagrangian Point: Observations and Models of 4U 2127+12 in M15. *Charles D. Bailyn, Michael R. Garcia, & Jonathan E. Grindlay.* 344, 786, 144-A10 (1989)
Does Tidal Capture Produce Cataclysmic Variables? *Charles D. Bailyn, Jonathan E. Grindlay, & Michael R. Garcia.* 357, L35, 121-C7 (1990)
GARCÍA-BARRETO, J. A. Magnetic Field Structure of the Star-forming Region W3(OH): VLBI Spectral Line Results. *J. A. García-Barreto, B. F. Burke, M. J. Reid, J. M. Moran, A. D. Haschick, & R. T. Schilizzi.* 326, 954, 44-A8 (1988)
GARCÍA LÓPEZ, R. J. Circular Polarization of the Ca II H and K Lines in Solar Quiet and Active Regions. *V. Martínez Pillet, R. J. García López, J. C. del Toro Iniesta, R. Rebolo, M. Vázquez, J. E. Beckman, & S. Char.* 361, L81, 168-F6 (1990)
GARCIA-MUNOZ, M. Cosmic-Ray Propagation in the Galaxy and in the Heliosphere: The Path Length Distribution at Low Energy. *M. Garcia-Munoz, J. A. Simpson, T. G. Guzik, J. P. Wefel, & S. H. Margolis.* 64, 269, 19-F6 (1987)
GARDEN, R. Discovery of New 2 Micron Sources in ρ Ophiuchi. *M. Barsony, Michael G. Burton, A. P. G. Russell, J. E. Carlstrom, & R. Garden.* 346, L93, 181-E4 (1989)
GARDEN, R. P. Observations of 5 Micron Lines of Shocked CO and H_2 in the Orion Molecular Cloud. *T. R. Geballe & R. P. Garden.* 365, 602, 215-F5 (1990)
GARDEN, ROGNVALD P. Images of Shock-excited Molecular Hydrogen in Young Stellar Outflows. *Rognvald P. Garden, Adrian P. G. Russell, & Michael G. Burton.* 354, 232, 76-G5 (1990)

GARDEN, RON. Detection of Vibration-Rotation Band Lines of Shocked CO in Orion. *T. R. Geballe & Ron Garden.* 317, L107, 78-E9 (1987)

Fluorescent Molecular Hydrogen Emission from the Reflection Nebula NGC 2023. *Ian Gatley, Tetsuo Hasegawa, Hiroko Suzuki, Ron Garden, Peter Brand, John Lightfoot, William Glencross, Haruyuki Okuda, & Tetsuya Nagata.* 318, L73, 92-D4 (1987)

GARDEN, RON P. Level Population and Para/Ortho Ratio of Fluorescent H_2 in NGC 2023. *Tetsuo Hasegawa, Ian Gatley, Ron P. Garden, Peter W. J. L. Brand, Masatoshi Ohishi, Masahiko Hayashi, & Norio Kaifu.* 318, L77, 92-D12 (1987)

GARDNER, F. F. Widespread Strong Methanol Masers near H II Regions. *R. P. Norris, J. L. Caswell, F. F. Gardner, & K. J. Wellington.* 321, L159, 137-E8 (1987)

Detection of the $2_0 \rightarrow 3_{-1}$ Transition of $^{13}CH_3OH$ at 14.8 GHz. *T. B. H. Kuiper, W. L. Peters III, F. F. Gardner, J. B. Whiteoak, & J. E. Reynolds.* 340, L41, 75-F9 (1989)

GARDNER, J. A Cosmologically Significant Population of Galaxies Dominated by Very Young Star Formation. *L. L. Cowie, S. J. Lilly, J. Gardner, & I. S. McLean.* 332, L29, 129-D7 (1988)

GARDNER, J. P. The Infrared Protogalaxy Candidate in SA 57: A Low-Redshift Elliptical Galaxy. *S. J. Lilly, J. P. Gardner, L. L. Cowie, & I. S. McLean.* 332, L59, 137-C1 (1988)

A *K* Band Deep Galaxy Survey. *L. L. Cowie, J. P. Gardner, S. J. Lilly, & I. McLean.* 360, L1, 149-B2 (1990)

GARDNER, JOHN H. On the Stability of Degenerate Dwarf Radiative Shocks: New One- and Two-Temperature Calculations. *Michael T. Wolff, John H. Gardner, & Kent S. Wood.* 346, 833, 177-E12 (1989)

GARILLI, B. Inverse Compton Scattering of Ambient Radiation by a Cold Relativistic Jet: A Source of Beamed, Polarized X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *Mitchell C. Begelman, Marek Sikora, P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 650, 146-G12 (1987)

X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 662, 147-A10 (1987)

A Red Envelope around a Dominant Elliptical Galaxy in an X-Ray Selected Poor Cluster. *D. Maccagni, B. Garilli, I. M. Gioia, T. Maccacaro, G. Vettolani, & A. Wolter.* 334, L1, 161-A6 (1988)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

A Study of BL Lacertae–Type Objects with *EXOSAT*. I. Flux Correlations, Luminosity, Variability, and Spectral Variability. *P. Giommi, P. Barr, B. Garilli, D. Maccagni, & A. M. T. Pollock.* 356, 432, 105-F1 (1990)

GARILLI, BIANCA. On the X-Ray and Ultraviolet Spectrum of the High-Redshift Quasar 3C 446. *Bianca Garilli & Gianpiero Tagliaferri.* 301, 703, 23-C8 (1986)

Rapid X-Ray and Optical Variability in the X-Ray–selected BL Lacertae Object 1E 1402.3+0416. *Paolo Giommi, Paul Barr, Isabella M. Gioia, Tommaso Maccacaro, Rudolph Schild, Bianca Garilli, & Dario Maccagni.* 303, 596, 49-A10 (1986)

GARLOW, K. The Effect of Gas and Grain Opacity on the Cooling of Brown Dwarfs. *Jonathan I. Lunine, W. B. Hubbard, Adam Burrows, Y-P. Wang, & K. Garlow.* 338, 314, 36-F11 (1989)

GARMANY, CATHARINE D. Stellar Winds in the Small Magellanic Cloud. *Catharine D. Garmany & Edward L. Fitzpatrick.* 332, 711, 132-B1 (1988)

Spectroscopic Studies of Wolf-Rayet Stars. V. Optical Spectrophotometry of the Emission Lines in Small Magellanic Cloud Stars. *Peter S. Conti, Philip Massey, & Catharine D. Garmany.* 341, 113, 85-D1 (1989)

The H-R Diagram of the Large Magellanic Cloud and Implications for Stellar Evolution. *Edward L. Fitzpatrick & Catharine D. Garmany.* 363, 119, 183-E10 (1990)

GARMIRE, G. P. Observations of Soft X-Ray Spectra from a Seyfert 1 and a Narrow Emission-Line Galaxy: Erratum. *K. P. Singh, G. P. Garmire, & J. Nousek.* 312, 484, 6-B10 (1987) (Orig. paper in 297, 633, 108-D10 (1985))

A 9 Month Long Soft X-Ray Survey of the Large Magellanic Cloud. I. X-Ray Map at 1/4 keV. *K. P. Singh, J. A. Nousek, D. N. Burrows, & G. P. Garmire.* 313, 185, 17-A7 (1987)

Search for Soft X-Ray Emission from SN 1987A with a CCD X-Ray Imaging Spectrometer. *D. N. Burrows, J. A. Nousek, G. D. Berthiaume, & G. P. Garmire.* 347, 1114, 197-D7 (1989)

GARNAVICH, P. Problems with the Baade-Wesselink Method. *E. Böhm-Vitense, P. Garnavich, M. Lawler, J. Mena-Werth, S. Morgan, E. Peterson, & S. Temple.* 343, 343, 122-D4 (1989)

GARNAVICH, PETER M. On the Distribution of Colors for Stars in the Ninth to Fifteenth Magnitude Range: Statistics and Implications for Galactic Structure. *Barry M. Lasker, Peter M. Garnavich, & Anne P. Reynolds.* 320, 502, 115-A3 (1987)

Wide Binary Stars at the Galactic Poles. *Peter M. Garnavich.* 335, L47, 185-B6 (1988)

A Study of the Eclipsing Cataclysmic Variable Lanning 90. *Peter M. Garnavich, Paula Szkody, Mario Mateo, Laurie Feinswog, John Booth, Bret Goodrich, H. Richard Miller, Michael T. Carini, & John W. Wilson.* 365, 696, 216-G13 (1990)

GARNETT, D. R. Type Ib Supernovae 1983n and 1985f: Oxygen-rich Late Time Spectra. *C. M. Gaskell, E. Cappellaro, H. L. Dinerstein, D. R. Garnett, R. P. Harkness, & J. C. Wheeler.* 306, L77, 93-G11 (1986)

The Composition Gradient across M81. *D. R. Garnett & G. A. Shields.* 317, 82, 64-G7 (1987)

The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault.* 317, 355, 67-F14 (1987)

GARNETT, DONALD R. The Abundances of Carbon and Nitrogen in I Zw 18. *Reginald J. Dufour, Donald R. Garnett, & Gregory A. Shields.* 332, 752, 132-F5 (1988)

The Abundance of Sulfur in Extragalactic H II Regions. *Donald R. Garnett.* 345, 282, 152-E12 (1989)

Nitrogen in Irregular Galaxies. *Donald R. Garnett.* 363, 142, 183-G9 (1990)

GARNETT, J. D. Subarcsecond Resolution Observations of the Central Parsec of the Galaxy at 2.2 Microns. *M. Simon, W.-P. Chen, W. J. Forrest, J. D. Garnett, A. J. Longmore, T. Gauer, & R. I. Dixon.* 360, 95, 146-C1 (1990)

GARRARD, T. L. Cosmic-Ray Energy Spectra between 10 and Several Hundred GeV per Atomic Mass Unit for Elements from $_{18}$Ar to $_{28}$Ni: Results from *HEAO 3*. *W. R. Binns, T. L. Garrard, M. H. Israel, Michael D. Jones, M. P. Kamionkowski, J. Klarmann, E. C. Stone, & C. J. Waddington.* 324, 1106, 15-F3 (1988)

Abundances of Ultraheavy Elements in the Cosmic Radiation: Results from *HEAO 3*. *W. R. Binns, T. L. Garrard, P. S. Gibner, M. H. Israel, M. P. Kertzman, J. Klarmann, B. J. Newport, E. C. Stone, & C. J. Waddington.* 346, 997, 179-E1 (1989)

GARRISON, R. F. Do UV-Bright Stars Mimic Normal (Population I) OB Stars? *R. F. Garrison & C. E. Albert.* 300, L69, 13-E6 (1986)

The Early A-Type Stars: Refined MK Classification, Confrontation with Strömgren Photometry, and the Effects of Rotation. *R. O. Gray & R. F. Garrison.* 65, 581, 37-C1 (1987)

The Early A-Type Stars: Refined MK Classification, Confrontation with Strömgren Photometry, and the Effects of Rotation: Erratum. *R. O. Gray & R. F. Garrison.* 68, 407, 28-G13 (1988) (Orig. paper in 65, 581, 37-C1 (1987))

The Early F-Type Stars: Refined Classification, Confrontation with Strömgren Photometry, and the Effects of Rotation. *R. O. Gray & R. F. Garrison.* 69, 301, 5-C1 (1989)

The Late A-Type Stars: Refined MK Classification, Confrontation with Strömgren Photometry, and the Effects of Rotation. *R. O. Gray & R. F. Garrison.* 70, 623, 27-B7 (1989)

GARRISON, ROBERT F. The Visible Spectra of Southern Hemisphere Mira Variable Stars. *Richard A. Crowe & Robert F. Garrison.* 66, 69, 2-C1 (1988)

GARWOOD, ROBERT. Compact Radio Sources in the Galactic Plane. *Terry Jay Jones, Robert Garwood, & John M. Dickey.* 328, 559, 69-C5 (1988)

GARWOOD, ROBERT W. Arecibo Observations of IRAS Galaxies at 21 and 18 Centimeter Wavelengths. *Robert W. Garwood, George Helou, & John M. Dickey.* 322, 88, 138-G11 (1987)

Cold Atomic Gas in the Inner Galaxy. *Robert W. Garwood & John M. Dickey.* 338, 841, 41-C10 (1989)

The Mass Spectrum of Interstellar Clouds. *John M. Dickey & Robert W. Garwood.* 341, 201, 86-D6 (1989)

GARY, DALE E. Multifrequency Observations of a Solar Active Region during a Partial Eclipse. *Dale E. Gary & G. J. Hurford.* 317, 522, 69-E12 (1987)

Microwave Structure of the Quiet Sun. *Dale E. Gary & Harold Zirin.* 329, 991, 88-A1 (1988)

A Simple Solar Microwave Burst Observed with High Spectral Resolution. *Dale E. Gary & G. J. Hurford.* 339, 1115, 65-D2 (1989)

Microwave Structure of the Quiet Sun at 8.5 GHz. *Dale E. Gary, Harold Zirin, & Haimin Wang.* 355, 321, 90-G6 (1990)

Multifrequency Observations of a Solar Microwave Burst with Two-dimensional Spatial Resolution. *Dale E. Gary & G. J. Hurford.* 361, 290, 160-E1 (1990)

GARY, G. A. Nonpotential Features Observed in the Magnetic Field of an Active Region. *G. A. Gary, R. L. Moore, M. J. Hagyard, & Bernhard M. Haisch.* 314, 782, 38-B8 (1987)

Active Region Coronal Loops: Structure and Variability. *Bernhard M. Haisch, Keith T. Strong, Richard A. Harrison, & G. A. Gary.* 68, 371, 28-E1 (1988)

On the Numerical Computation of Nonlinear Force-free Magnetic Fields. *S. T. Wu, M. T. Sun, H. M. Chang, M. J. Hagyard, & G. A. Gary.* 362, 698, 179-D6 (1990)

GARY, G. ALLEN. Linear Force-free Magnetic Fields for Solar Extrapolation and Interpretation. *G. Allen Gary.* 69, 323, 5-E1 (1989)

GASKELL, C. M. Type Ib Supernovae 1983n and 1985f: Oxygen-rich Late Time Spectra. *C. M. Gaskell, E. Cappellaro, H. L. Dinerstein, D. R. Garnett, R. P. Harkness, & J. C. Wheeler.* 306, L77, 93-G11 (1986)

GASKELL, C. MARTIN. Line Variations in Quasars and Seyfert Galaxies. *C. Martin Gaskell & Linda S. Sparke.* 305, 175, 68-G7 (1986)

The Accuracy of Cross-Correlation Estimates of Quasar Emission-Line Region Sizes. *C. Martin Gaskell & Bradley M. Peterson.* 65, 1, 28-A5 (1987)

Direct Evidence for Gravitational Domination of the Motion of Gas within One Light-Week of the Central Object in NGC 4151 and the Determination of the Mass of the Probable Black Hole. *C. Martin Gaskell.* 325, 114, 20-D3 (1988)

Emission-Line Properties of Optically and Radio-selected Complete Quasar Samples. *J. A. Baldwin, E. Joseph Wampler, & C. Martin Gaskell.* 338, 630, 41-G1 (1989)

Emission-Line Variability of Fairall 9: Determination of the Size of the Broad-Line Region and the Direction of Gas Motion. *Anuradha P. Koratkar & C. Martin Gaskell.* 345, 637, 158-F2 (1989)

GATEWOOD, GEORGE. A Study of Upgren 1. *George Gatewood, Joost Kiewiet de Jonge, Michael Castelaz, Inwoo Han, Timothy Persinger, James Prosser, Thomas Reiland, & John Stein.* 332, 917, 134-D12 (1988)

A Map-based Determination of the Nature of Beta Delphini. *George Gatewood, Michael Castelaz, Timothy Persinger, John Stein, Pierre Demarque, Sabatino Sofia, & Bruce Stephenson.* 342, 1085, 115-E7 (1989)

MAP–based Trigonometric Parallaxes of Open Clusters: The Pleiades. *George Gatewood, Michael Castelaz, Inwoo Han, Timothy Persinger, John Stein, Bruce Stephenson, & William Tangren.* 364, 114, 195-D5 (1990)

GATLEY, I. Extreme Limb Profiles of the Sun at Far-Infrared and Submillimeter Wavelengths. *C. Lindsey, E. E. Becklin, F. Q. Orrall, M. W. Werner, J. T. Jefferies, & I. Gatley.* 308, 448, 112-G13 (1986)

The Broad-Line Region at the Center of the Galaxy. *T. R. Geballe, R. Wade, K. Krisciunas, I. Gatley, & M. C. Bird.* 320, 562, 115-F12 (1987)

Ionization State in and Reddening to the Center of the Galaxy. *R. Wade, T. R. Geballe, K. Krisciunas, I. Gatley, & M. C. Bird.* 320, 570, 115-G7 (1987)

Discovery of a Reflection Dust Envelope around IRC +10216. *M. Tamura, T. Hasegawa, N. Ukita, I. Gatley, I. S. McLean, M. G. Burton, J. T. Rayner, & M. J. McCaughrean.* 326, L17, 38-B9 (1988)

An Infrared Quintuplet near the Galactic Center. *Haruyuki Okuda, Hiroshi Shibai, Takao Nakagawa, Hideo Matsuhara, Yukiyasu Kobayashi, Norio Kaifu, Tetsuya Nagata, I. Gatley, & T. R. Geballe.* 351, 89, 39-B11 (1990)

GATLEY, IAN. Very Extended Infrared Emission at the Center of M51: The Role of Star Formation. *C. M. Telesco, R. Decher, & Ian Gatley.* 302, 632, 37-E3 (1986)

Fluorescent Molecular Hydrogen Emission from the Reflection Nebula NGC 2023. *Ian Gatley, Tetsuo Hasegawa, Hiroko Suzuki, Ron Garden, Peter Brand, John Lightfoot, William Glencross, Haruyuki Okuda, & Tetsuya Nagata.* 318, L73, 92-D4 (1987)

Level Population and Para/Ortho Ratio of Fluorescent H_2 in NGC 2023. *Tetsuo Hasegawa, Ian Gatley, Ron P. Garden, Peter W. J. L. Brand, Masatoshi Ohishi, Masahiko Hayashi, & Norio Kaifu.* 318, L77, 92-D12 (1987)

Molecular Hydrogen Maps of Extended Planetary Nebulae: The Dumbell, the Ring, and NGC 2346. *B. Zuckerman & Ian Gatley.* 324, 501, 6-F6 (1988)

Infrared Spectroscopy of Interstellar Molecular Hydrogen: Decomposition of Thermal and Fluorescent Components. *Masuo Tanaka, Tetsuo Hasegawa, Saeko S. Hayashi, Peter W. J. L. Brand, & Ian Gatley.* 336, 207, 3-F3 (1989)

Infrared Reflection Nebulae around GL 490 and R Monocerotis: Shell Structure and Possible Large Dust Grains. *Takuya Yamashita, Shuji Sato, Tetsuya Nagata, Ian Gatley, Saeko S. Hayashi, & Yasuo Fukui.* 336, 832, 12-G2 (1989)

A Spectacular Molecular Outflow in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, Tetsuo Hasegawa, Saeko S. Hayashi, Masahiko Hayashi, Norio Kaifu, Ian Gatley, Thomas P. Greene, & Erick T. Young.* 352, 615, 58-F1 (1990)

Demonstration of an Algorithm for Read-Noise Reduction in Infrared Arrays. *A. M. Fowler & Ian Gatley.* 353, L33, 67-D6 (1990)

Infrared Images of Ionized and Molecular Hydrogen Emission in S106. *Saeko S. Hayashi, Tetsuo Hasegawa, Masuo Tanaka, Masahiko Hayashi, Colin Aspin, Ian S. McLean, Peter W. J. L. Brand, & Ian Gatley.* 354, 242, 77-B2 (1990)

The Luminosity Function in NGC 2023. *D. L. DePoy, E. A. Lada, Ian Gatley, & R. Probst.* 356, L55, 110-C5 (1990)

Molecules in NGC 6781 and Other Ringlike Planetary Nebulae. *B. Zuckerman, J. H. Kastner, Bruce Balick, & Ian Gatley.* 356, L59, 110-C10 (1990)

GAUER, T. Subarcsecond Resolution Observations of the Central Parsec of the Galaxy at 2.2 Microns. *M. Simon, W.-P. Chen, W. J. Forrest, J. D. Garnett, A. J. Longmore, T. Gauer, & R. I. Dixon.* 360, 95, 146-C1 (1990)

GAUME, RALPH A. A Study of the Ground-State Hydroxyl Maser Emission Associated with 11 Regions of Star Formation. *Ralph A. Gaume & Robert L. Mutel.* 65, 193, 31-A5 (1987)

Multifrequency Observations of the Double-Nucleus Galaxy Markarian 266: Enhanced Synchrotron Emission Induced by a Merger. *Joseph M. Mazzarella, Ralph A. Gaume, Hugh D. Aller, & Philip A. Hughes.* 333, 168, 139-G8 (1988)

The Sagittarius B2 Star-forming Region: Subarcsecond Radio Spectral Line and Continuum Observations. *Ralph A. Gaume & M. J. Claussen.* 351, 538, 46-G1 (1990)

GAUTIER, T. N. The Circumstellar Environment of TMR-1: A Young Low-Mass Star in the Taurus Molecular Ring. *S. Terebey, C. A. Beichman, T. N. Gautier, & J. J. Hester.* 362, L63, 181-D1 (1990)

GAUTIER, T. N., III. Infrared and Optical Imagery of the Crab Nebula. *J. Jeff Hester, James R. Graham, Charles A. Beichman, & T. N. Gautier III.* 357, 539, 119-C7 (1990)

GAUTSCHY, A. Overtone Pulsation in Stars. *R. F. Stellingwerf, A. Gautschy, & R. J. Dickens.* 313, L75, 27-D2 (1987)

The Effects of Radiation Pressure on Stellar Stability. *R. F. Stellingwerf & A. Gautschy.* 327, 801, 57-D6 (1988)

GAVAZZI, G. On the Dependence of Far-Infrared and Radio Continuum Luminosities on Hubble Type in Spiral Galaxies. *G. Gavazzi, A. Cocito, & G. Vettolani.* 305, L15, 74-B3 (1986)

Radio Continuum Survey of the Coma/A1367 Supercluster. III. Radio Properties of Galaxies in Different Density Environments. *G. Gavazzi & W. Jaffe.* 310, 53, 132-E11 (1986)

Near-Infrared Observations of Galaxies in the Coma Supercluster. *G. Gavazzi & G. Trinchieri.* 342, 718, 111-D1 (1989)

GAVAZZI, GIUSEPPE. 21 Centimeter Study of Spiral Galaxies in the Coma Supercluster. *Giuseppe Gavazzi.* 320, 96, 109-B3 (1987)

21 Centimeter Study of Spiral Galaxies in the Coma Supercluster. II. Evidence for Ongoing Gas Stripping in Five Cluster Galaxies. *Giuseppe Gavazzi.* 346, 59, 166-G1 (1989)

The Relative Spatial Distributions of High- and Low-Luminosity Galaxies toward Coma. *John J. Salzer, Margaret Murray Hanson, & Giuseppe Gavazzi.* 353, 39, 62-E7 (1990)

GAY, A. M. *Ariel 6* Measurements of the Fluxes of Ultra-heavy Cosmic Rays. *P. H. Fowler, R. N. F. Walker, M. R. W. Masheder, R. T. Moses, A. Worley, & A. M. Gay.* 314, 739, 37-F7 (1987)

GAYLARD, M. J. Newly Discovered Methanol Masers Associated with IRAS Sources. *A. J. Kemball, M. J. Gaylard, & G. D. Nicolson.* 331, L37, 114-D1 (1988)

GAYLEY, KENNETH G. Impulsive Hα Diagnostics of Electron-Beam–heated Solar Flare Model Chromospheres. *Richard C. Canfield & Kenneth G. Gayley.* 322, 999, 150-G10 (1987)

GEAR, W. K. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)

Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)

Multifrequency Observations of Blazars. IV. The Variability of the Radio to Ultraviolet Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, & M. G. Smith.* 340, 150, 69-A2 (1989)

GEBALLE, T. R. Comparison of 2.1 and 3.8 Micron Line Profiles of Shocked H_2 in the Orion Molecular Cloud. *T. R. Geballe, S. E. Persson, Theodore Simon, Carol J. Lonsdale, & P. J. McGregor.* 302, 693, 38-C1 (1986)

New Emission Features in the Infrared Spectra of Two IRAS Sources. *M. de Muizon, T. R. Geballe, L. B. d'Hendecourt, & F. Baas.* 306, L105, 94-B11 (1986)

Detection of Carbon Monoxide in Saturn. *Keith S. Noll, R. F. Knacke, T. R. Geballe, & A. T. Tokunaga.* 309, L91, 131-F3 (1986)

Spectroscopy of the 3.4 Micron Emission Feature in Comet Halley. *F. Baas, T. R. Geballe, & D. M. Walther.* 311, L97, 160-F10 (1986)

Emission from CO Band Heads in Young Stellar Objects. *T. R. Geballe & S. E. Persson.* 312, 297, 4-B8 (1987)

Infrared Line Observations of Low-Luminosity Outflow Sources. *Howard A. Smith, J. Fischer, T. R. Geballe, & P. R. Schwartz.* 316, 265, 52-G12 (1987)

Discovery of Broad Brackett-α Emission in Arp 220. *D. L. DePoy, E. E. Becklin, & T. R. Geballe.* 316, L63, 62-B8 (1987)

Detection of Vibration-Rotation Band Lines of Shocked CO in Orion. *T. R. Geballe & Ron Garden.* 317, L107, 78-E9 (1987)

The Broad-Line Region at the Center of the Galaxy. *T. R. Geballe, R. Wade, K. Krisciunas, J. Gatley, & M. C. Bird.* 320, 562, 115-F12 (1987)

Ionization State in and Reddening to the Center of the Galaxy. *R. Wade, T. R. Geballe, K. Krisciunas, J. Gatley, & M. C. Bird.* 320, 570, 115-G7 (1987)

Molecular Hydrogen Line Emission in Seyfert Galactic Nuclei. *J. Fischer, T. R. Geballe, Howard A. Smith, M. Simon, & J. W. V. Storey.* 320, 667, 117-B2 (1987)

The Origin and Vertical Distribution of Carbon Monoxide in Jupiter. *Keith S. Noll, R. F. Knacke, T. R. Geballe, & A. T. Tokunaga.* 324, 1210, 17-A1 (1988)

The Ice Band in IRAS 09371+1212. *T. R. Geballe, Y. H. Kim, R. F. Knacke, & Keith S. Noll.* 326, L65, 46-C5 (1988)

Ratios of Molecular Hydrogen Line Intensities in Shocked Gas: Evidence for Cooling Zones. *P. W. J. L. Brand, A. Moorhouse, M. G. Burton, T. R. Geballe, M. Bird, & R. Wade.* 334, L103, 169-F1 (1988)

Arsine in Saturn and Jupiter. *Keith S. Noll, T. R. Geballe, & R. F. Knacke.* 338, L71, 49-D9 (1989)

Unusual Features of the 1–4 Micron Spectrum of HR 4049. *T. R. Geballe, K. S. Noll, D. C. B. Whittet, & L. B. F. M. Waters.* 340, L29, 75-E9 (1989)

An Infrared Study of Starbursts in the Interacting Galaxy Pair Arp 299 (NGC 3690 + IC 694). *Takao Nakagawa, Tetsuya Nagata, T. R. Geballe, Haruyuki Okuda, Hiroshi Shibai, & Hideo Matsuhara.* 340, 729, 77-E1 (1989)

Spatial Variations of the 3 Micron Emission Features within UV–excited Nebulae: Photochemical Evolution of Interstellar Polycyclic Aromatic Hydrocarbons. *T. R. Geballe, A. G. G. M. Tielens, L. J. Allamandola, A. Moorhouse, & P. W. J. L. Brand.* 341, 278, 87-C13 (1989)

High Spectral Resolution Observations of the $H_2$2.12 Micron Line in Herbig-Haro Objects. *Hans Zinnecker, Reinhard Mundt, T. R. Geballe, & William J. Zealey.* 342, 337, 105-A7 (1989)

An Infrared Spectroscopic Search for the Molecular Ion H_3^+. *T. R. Geballe & T. Oka.* 342, 855, 113-A1 (1989)

The Infrared Emission Bands. II. A Spatial and Spectral Study of the Orion Bar. *J. D. Bregman, L. J. Allamandola, A. G. G. M. Tielens, T. R. Geballe, & F. C. Witteborn.* 344, 791, 144-B1 (1989)

An Infrared Quintuplet near the Galactic Center. *Haruyuki Okuda, Hiroshi Shibai, Takao Nakagawa, Hideo Matsuhara, Yukiyasu Kobayashi, Norio Kaifu, Tetsuya Nagata, I. Gatley, & T. R. Geballe.* 351, 89, 39-B11 (1990)

Observations of the 4 Micron Fundamental Band of H_3^+ in Jupiter. *T. Oka & T. R. Geballe.* 351, L53, 49-E10 (1990)

High Spectral Resolution Observations of Fluorescent Molecular Hydrogen in Molecular Clouds. *Michael G. Burton, T. R. Geballe, P. W. J. L. Brand, & A. Moorhouse.* 352, 625, 58-G1 (1990)

Unusual Infrared Line Profiles in the Post–Asymptotic Giant Branch Star HD 56126. *S. Kwok, Bruce J. Hrivnak, & T. R. Geballe.* 360, L23, 149-D6 (1990)

Observations of 5 Micron Lines of Shocked CO and H_2 in the Orion Molecular Cloud. *T. R. Geballe & R. P. Garden.* 365, 602, 215-F5 (1990)

GEBALLE, THOMAS. Near-Infrared Spectra of Seyfert Nuclei. I. The Reddening Problem. *Martin J. Ward, Thomas Geballe, Malcolm Smith, Richard Wade, & Peredur Williams.* 316, 138, 51-D13 (1987)

GEE, GRAHAM. CO Pedestal Features from IRAS Sources in Dark Clouds. *P. R. Schwartz, Graham Gee, & Y.-L. Huang.* 327, 350, 50-G4 (1988)

GEHRELS, N. Observations of Gamma-Ray Line Profiles from SN 1987A. *J. Tueller, S. Barthelmy, N. Gehrels, B. J. Teegarden, M. Leventhal, & C. J. MacCallum.* 351, L41, 49-D1 (1990)

GEHRELS, NEIL. Confidence Limits for Small Numbers of Events in Astrophysical Data. *Neil Gehrels.* 303, 336, 44-F12 (1986)

Prospects for Observations of Nucleosynthetic Gamma-Ray Lines and Continuum from SN 1987A. *Neil Gehrels, Crawford J. MacCallum, & Marvin Leventhal.* 320, L19, 114-B10 (1987)

Prospects for Gamma-Ray Line Observations of Individual Supernovae. *Neil Gehrels, Marvin Leventhal, & Crawford J. MacCallum.* 322, 215, 140-C3 (1987)

GEHRZ, R. D. A Neon Nova: Discovery of a Remarkable 12.8 Micron [Ne II] Emission Line in Nova Vulpeculae 1984 Number 2: Erratum. *R. D. Gehrz, G. L. Grasdalen, & J. A. Hackwell.* 306, L49, 86-D6 (1986) (Orig. paper in 298, L47, 125-D9 (1985))

The Neon Nova. II. Condensation of Silicate Grains in the Ejecta of Nova Vulpeculae 1984 Number 2. *R. D. Gehrz, G. L. Grasdalen, M. Greenhouse, J. A. Hackwell, T. Hayward, & A. F. Bentley.* 308, L63, 120-F12 (1986)

Velocity Structure of Stellar Atmospheres: R Scuti. *David Mozurkewich, R. D. Gehrz, K. H. Hinkle, & D. L. Lambert.* 314, 242, 30-F12 (1987)

Near-Infrared Light and the Morphology of Arp 220. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, & R. D. Dietz.* 329, 107, 76-B3 (1988)

PW Vulpeculae: A Dust-poor DQ Herculis? *R. D. Gehrz, T. E. Harrison, E. P. Ney, K. Matthews, G. Neugebauer, J. Elias, G. L. Grasdalen, & J. A. Hackwell.* 329, 894, 86-G6 (1988)

The Infrared Spectrum of Comet Bradfield (1987s) and the Silicate Emission Feature. *M. S. Hanner, R. L. Newburn, R. D. Gehrz, T. Harrison, E. P. Ney, & T. L. Hayward.* 348, 312, 4-G9 (1990)

The Infrared Coronal Lines of Recent Novae. *Matthew A. Greenhouse, G. L. Grasdalen, C. E. Woodward, J. Benson, R. D. Gehrz, E. Rosenthal, & M. F. Skrutskie.* 352, 307, 53-F1 (1990)

Starlight Morphology of the Interacting Galaxy NGC 5195. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, R. D. Dietz, & Scott D. Friedman.* 362, 455, 176-B10 (1990)

GEHRZ, ROBERT D. An Infrared Reflection Nebula Surrounding SGS 1 in the NGC 1333 Dark Cloud. *Michael W. Castelaz, John A. Hackwell, Gary L. Grasdalen, & Robert D. Gehrz.* 300, 406, 5-D14 (1986)

GSS 30: An Infrared Reflection Nebula in the Ophiuchus Dark Cloud: Erratum. *Michael W. Castelaz, John A. Hackwell, Gary L. Grasdalen, Robert D. Gehrz, & Craig Gullixson.* 301, 502, 19-C9 (1986) (Orig. paper in 290, 261, 26-A1 (1985))

The Internal Structure of the Dust Shell of Eta Carinae Deduced from Six Channel 8–13 Micron Mapping. *John A. Hackwell, Robert D. Gehrz, & Gary L. Grasdalen.* 311, 380, 150-C9 (1986)

Infrared Imaging of the Compact H II Region W3A. *Thomas L. Hayward, Gary L. Grasdalen, Charles E. Woodward, John A. Hackwell, Robert D. Gehrz, & Judith L. Pipher.* 345, 894, 161-F1 (1989)

Photometry of Variable AFGL Sources. *Terry Jay Jones, C. O. Bryja, Robert D. Gehrz, Thomas E. Harrison, Joni J. Johnson, Dimitri I. Klebe, & Geoffrey F. Lawrence.* 74, 785, 41-E11 (1990)

GEIS, N. Far-Infrared, Submillimeter, and Millimeter Spectroscopy of the Galactic Center: Radio Arc and +20/+50 Kilometer per Second Clouds. *R. Genzel, G. J. Stacey, A. I. Harris, C. H. Townes, N. Geis, U. U. Graf, A. Poglitsch, & J. Stutzki.* 356, 160, 101-A9 (1990)

GEISLER, DOUG. TiO Continuum Placement Effects in 47 Tucanae Giants. *Doug Geisler.* 304, L41, 66-B5 (1986)

The Abundance Distribution and Luminosity Function of Globular Clusters in NGC 1399. *Doug Geisler & Juan Carlos Forte.* 350, L5, 31-B1 (1990)

GEISS, J. Abundance of Iron Ions in the Solar Wind. *J. Schmid, P. Bochsler, & J. Geiss.* 329, 956, 87-E6 (1988)

GELDZAHLER, B. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

GELDZAHLER, B. J. Scorpius X-1: An Evolving Double Radio Source. *B. J. Geldzahler & E. B. Fomalont.* 311, 805, 156-E11 (1986)

Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)

Search for Doppler-shifted Gamma-Ray Emission from SS 433 Using the *SMM* Spectrometer. *B. J. Geldzahler, G. H. Share, R. L. Kinzer, J. Magura, E. L. Chupp, & E. Rieger.* 342, 1123, 116-A5 (1989)

GELDZAHLER, BARRY. Search for X-Ray Emission from the Radio Lobes of Scorpius X-1. *Barry Geldzahler & Paul Hertz.* 322, 342, 141-E5 (1987)

GELDZAHLER, BARRY J. Multifrequency VLBI Observations of 4C 39.25: A Superluminal Source without a Well-defined Core. *Alan P. Marscher, David B. Shaffer, Roy S. Booth, & Barry J. Geldzahler.* 319, L69, 107-D7 (1987)

GELFREIKH, G. B. Structure of a Solar Active Region from RATAN 600 and Very Large Array Observations. *Sh. B. Akhmedow, V. N. Borovik, G. B. Gelfreikh, V. M. Bogod, A. N. Korzhavin, Z. E. Petrov, V. N. Dikij, Kenneth R. Lang, & Robert F. Willson.* 301, 460, 18-G9 (1986)

GELLER, M. J. An X-Ray and Optical Study of the Cluster of Galaxies Abell 754. *D. Fabricant, T. C. Beers, M. J. Geller, P. Gorenstein, J. P. Huchra, & M. J. Kurtz.* 308, 530, 114-F4 (1986)

A Deep Abell Cluster Redshift Survey. *J. P. Huchra, J. P. Henry, M. Postman, & M. J. Geller.* 365, 66, 206-G1 (1990)

GELLER, MARGARET J. A Slice of the Universe. *Valérie de Lapparent, Margaret J. Geller, & John P. Huchra.* 302, L1, 35-A4 (1986)

The Shane-Wirtanen Counts: Systematics and Two-Point Correlation Function. *Valérie de Lapparent, Michael J. Kurtz, & Margaret J. Geller.* 304, 585, 62-C5 (1986)

Lyman-α Emission in Star-forming Galaxies. *Lee W. Hartmann, John P. Huchra, Margaret J. Geller, Paul O'Brien, & Robert Wilson.* 326, 101, 33-B11 (1988)

The Mean Density and Two-Point Correlation Function for the CfA Redshift Survey Slices. *Valérie de Lapparent, Margaret J. Geller, & John P. Huchra.* 332, 44, 123-E5 (1988)

The Luminosity Function for the CfA Redshift Survey Slices. *Valérie de Lapparent, Margaret J. Geller, & John P. Huchra.* 343, 1, 118-A9 (1989)

Groups of Galaxies in the Center for Astrophysics Redshift Survey. *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 344, 57, 133-F7 (1989)

The CfA Redshift Survey: Data for the NGP +30 Zone. *John P. Huchra, Margaret J. Geller, Valérie de Lapparent, & Harold G. Corwin, Jr.* 72, 433, 8-B1 (1990)

The Two-Point Correlation Function for Groups of Galaxies in the Center for Astrophysics Redshift Survey. *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 353, 51, 62-F7 (1990)

The Kinematics of Abell Clusters. *Ann I. Zabludoff, John P. Huchra, & Margaret J. Geller.* 74, 1, 30-B1 (1990)

GENET, R. M. Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)

GENET, RUSSELL M. Photometric Variability in Chromospherically Active Stars. III. The Binary Stars. *Klaus G. Strassmeier, Douglas S. Hall, Louis J. Boyd, & Russell M. Genet.* 69, 141, 2-G3 (1989)

GÉNOVA, R. Mg II Observed in the Local Interstellar Medium: The Local Cloud. *R. Génova, P. Molaro, G. Vladilo, & J. E. Beckman.* 355, 150, 88-G2 (1990)

GENZEL, R. Observations of Far-Infrared Line Profiles in the Orion-KL Region. *M. K. Crawford, J. B. Lugten, W. Fitelson, R. Genzel, & G. Melnick.* 303, L57, 53-D7 (1986)

[C II] 158 Micron Mapping in Sagittarius A: Rotation Curve and Mass Distribution in the Galactic Center. *J. B. Lugten, R. Genzel, M. K. Crawford, & C. H. Townes.* 306, 691, 92-B4 (1986)

Excitation of Methyl Cyanide in the Hot Core of Orion. *E. C. Sutton, Geoffrey A. Blake, R. Genzel, C. R. Masson, & T. G. Phillips.* 311, 921, 158-A1 (1986)

The Interstellar Medium in the Central 1 Kiloparsec of M82. *J. B. Lugten, D. M. Watson, M. K. Crawford, & R. Genzel.* 311, L51, 160-C5 (1986)

Detection of Interstellar CH in the Far-Infrared. *Gordon J. Stacey, J. B. Lugten, & R. Genzel.* 313, 859, 26-B9 (1987)

Warm Dense Gas in Luminous Protostellar Regions: A Submillimeter and Far-Infrared CO Line Study. *D. T. Jaffe, A. I. Harris, & R. Genzel.* 316, 231, 52-E1 (1987)

The Dispersal of Dense Protostellar Material: NH_3 Hot Cores and Outflows in Sagittarius B2. *S. N. Vogel, R. Genzel, & Patrick Palmer.* 316, 243, 52-F3 (1987)

Aperture Synthesis Observations of the Circumnuclear Ring in the Galactic Center. *R. Güsten, R. Genzel, M. C. H. Wright, D. T. Jaffe, J. Stutzki, & A. I. Harris.* 318, 124, 80-C8 (1987)

Far-Infrared Measurements of N/O in H II Regions: Evidence for Enhanced CN Process Nucleosynthesis in the Inner Galaxy. *D. F. Lester, H. L. Dinerstein, M. W. Werner, D. M. Watson, R. Genzel, & J. W. V. Storey.* 320, 573, 116-A1 (1987)

Interpretation of Rotationally Excited Far-Infrared OH Emission in Orion-KL. *G. J. Melnick, R. Genzel, & J. B. Lugten.* 321, 530, 127-G10 (1987)

Submillimeter and Far-Infrared Spectroscopy of M17 and S106: UV-heated, Quiescent Molecular Gas? *A. I. Harris, J. Stutzki, R. Genzel, J. B. Lugten, G. J. Stacey, & D. T. Jaffe.* 322, L49, 145-D6 (1987)

The Distance to the Center of the Galaxy: H_2O Maser Proper Motions in Sagittarius B2(N). *M. J. Reid, M. H. Schneps, J. M.*

Moran, C. R. Gwinn, R. Genzel, D. Downes, & B. Rönnäng. 330, 809, 101-D7 (1988)

First Detection of HCN $J = 9$–8 (797 GHz) Line Emission: Very High Densities in the Orion Core. *J. Stutzki, R. Genzel, A. I. Harris, J. Herman, & D. T. Jaffe.* 330, L125, 105-A9 (1988)

Submillimeter and Far-Infrared Line Observations of M17 SW: A Clumpy Molecular Cloud Penetrated by Ultraviolet Radiation. *J. Stutzki, G. J. Stacey, R. Genzel, A. I. Harris, D. T. Jaffe, & J. B. Lugten.* 332, 379, 127-C6 (1988)

High Spatial Resolution Observations of Neutral Atomic Carbon in the Molecular Clouds M17 and W51. *R. Genzel, A. I. Harris, D. T. Jaffe, & J. Stutzki.* 332, 1049, 136-A7 (1988)

Detection of Far-Infrared ^{13}CO Line Emission. *R. Genzel, A. Poglitsch, & G. J. Stacey.* 333, L59, 152-D1 (1988)

First Detection of SO_2 and CH_3OH Emission and One Unidentified Line near 800 GHz. *J. Stutzki, R. Genzel, U. U. Graf, A. I. Harris, & D. T. Jaffe.* 340, L37, 75-F5 (1989)

Strong, Spatially Extended CO 7→6 Emission from Luminous Cloud Cores: W52 and DR 21. *D. T. Jaffe, R. Genzel, A. I. Harris, J. B. Lugten, G. J. Stacey, & J. Stutzki.* 344, 265, 136-C10 (1989)

Further Observations of Rotationally Excited Far-Infrared ^{16}OH and ^{18}OH Emission in Orion-KL: Tighter Constraints on the Nature of the Emitting Region. *G. J. Melnick, G. J. Stacey, R. Genzel, J. B. Lugten, & A. Poglitsch.* 348, 161, 3-A10 (1990)

Warm Gas and Spatial Variations of Molecular Excitation in the Nuclear Region of IC 342. *A. Eckart, D. Downes, R. Genzel, A. I. Harris, D. T. Jaffe, & W. Wild.* 348, 434, 8-A3 (1990)

Warm Dense Gas in the Reflection Nebula NGC 2023. *D. T. Jaffe, R. Genzel, A. I. Harris, J. E. Howe, G. J. Stacey, & J. Stutzki.* 353, 193, 64-E1 (1990)

Far-Infrared, Submillimeter, and Millimeter Spectroscopy of the Galactic Center: Radio Arc and +20/+50 Kilometer per Second Clouds. *R. Genzel, G. J. Stacey, A. I. Harris, C. H. Townes, N. Geis, U. U. Graf, A. Poglitsch, & J. Stutzki.* 356, 160, 101-A9 (1990)

Detection of an Isotopic Short Submillimeter CO Line: Column Densities of Warm Gas in Molecular Clouds. *U. U. Graf, R. Genzel, A. I. Harris, R. E. Hills, A. P. G. Russell, & J. Stutzki.* 358, L49, 133-C8 (1990)

Molecular Absorption Lines toward the Nucleus of Centaurus A. *A. Eckart, M. Cameron, R. Genzel, J. M. Jackson, H. Rothermel, J. Stutzki, G. Rydbeck, & T. Wiklind.* 365, 522, 214-F7 (1990)

GEORGE, IAN M. Electron-Positron Pairs, Compton Reflection, and the X-Ray Spectra of Active Galactic Nuclei. *Andrzej A. Zdziarski, Gabriele Ghisellini, Ian M. George, Roland Svensson, A. C. Fabian, & Chris Done.* 363, L1, 187-A5 (1990)

GERARDI, G. Observation of the Vela Pulsar, PSR 0833−45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)

GERBIER, G. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

GERGELY, T. E. Solar Microbursts at Meter-Dekameter Wavelengths. *M. R. Kundu, T. E. Gergely, A. Szabo, R. Loiacono, & S. M. White.* 308, 436, 112-F13 (1986)

GERHARD, ORTWIN E. The Triaxial Bulge of the Sa Galaxy NGC 4845. *Ortwin E. Gerhard, Mario Vietri, & Stephen M. Kent.* 345, L33, 157-C12 (1989)

GERHARDY, P. R. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)

Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

GERLICH, D. Ion Trap Studies of Association Processes in Collisions of CH_3^+ and CD_3^+ with n-H_2, p-H_2, D_2, and He at 80 K. *D. Gerlich & G. Kaefer.* 347, 849, 193-G13 (1989)

GEROYANNIS, V. S. Third-Order Perturbation Theory: Structure Parameters of Uniformly Rotating Polytropic Stars and Improvement and Accuracy of the Results. *V. S. Geroyannis & F. N. Valvi.* 62, 363, 36-B11 (1986)

Numerical Implementation of a Perturbation Theory Up to Third Order for Rotating Polytropic Stars: Structure Parameters under Differential Rotation. *V. S. Geroyannis & F. N. Valvi.* 312, 219, 3-C12 (1987)

Chandrasekhar's Perturbation Method–oriented Theories up to Third Order: Structure Parameters for Rotating Polytropic Stars. *V. S. Geroyannis & F. N. Valvi.* 66, 139, 3-E1 (1988)

A Complex-Plane Strategy for Computing Rotating Polytropic Models: Efficiency and Accuracy of the Complex First-Order Perturbation Theory. *V. S. Geroyannis.* 327, 273, 50-A9 (1988)

Models of White Dwarfs under Rapid Uniform or Differential Rotation: Numerical Results. *V. S. Geroyannis & A. A. Hadjopoulos.* 70, 661, 27-F1 (1989)

A Complex-Plane Strategy for Computing Rotating Polytropic Models: Numerical Results for Strong and Rapid Differential Rotation. *V. S. Geroyannis.* 350, 355, 29-D3 (1990)

GERVASI, M. A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)

GEYER, E. H. Ultraviolet Observations by the *IUE* of 31 Clusters of the Large Magellanic Cloud. *A. Cassatella, J. Barbero, & E. H. Geyer.* 64, 83, 18-A7 (1987)

The Age Calibration of Integrated Ultraviolet Colors and Young Stellar Clusters in the Large Magellanic Cloud. *J. Barbero, E. Brocato, A. Cassatella, V. Castellani, & E. H. Geyer.* 351, 98, 39-C8 (1990)

GEZARI, D. Y. Structure in the Nucleus of NGC 1068 at 10 Microns. *R. Tresch-Fienberg, G. G. Fazio, D. Y. Gezari, W. F. Hoffmann, G. M. Lamb, P. K. Shu, & C. R. McCreight.* 312, 542, 8-G2 (1987)

GHIGO, FRANK D. Luminous Extranuclear Star Formation in the Interacting Galaxy Arp 118 (NGC 1143/44). *Marshall Joy & Frank D. Ghigo.* 332, 179, 125-A9 (1988)

GHISELLINI, G. Spectral Properties of Blazars. I. Objects Observed in the Far-Ultraviolet. *G. Ghisellini, L. Maraschi, E. G. Tanzi, & A. Treves.* 310, 317, 135-D12 (1986)

Spectral Properties of Blazars. II. An X-Ray Observed Sample. *L. Maraschi, G. Ghisellini, E. G. Tanzi, & A. Treves.* 310, 325, 135-E7 (1986)

Acceleration by Synchrotron Absorption and Superluminal Sources. *G. Ghisellini, G. Bodo, E. Trussoni, & M. J. Rees.* 362, L1, 174-A7 (1990)

GHISELLINI, GABRIELE. The Synchrotron Boiler. *Gabriele Ghisellini, Paul W. Guilbert, & Roland Svensson.* 334, L5, 161-B1 (1988)

Bulk Acceleration in Relativistic Jets and the Spectral Properties of Blazars. *Gabriele Ghisellini & Laura Maraschi.* 340, 181, 69-C13 (1989)

Electron-Positron Pairs, Compton Reflection, and the X-Ray Spectra of Active Galactic Nuclei. *Andrzej A. Zdziarski, Gabriele Ghisellini, Ian M. George, Roland Svensson, A. C. Fabian, & Chris Done.* 363, L1, 187-A5 (1990)

GHOSH, K. K. Observation of an Hα Outburst in the Be Star HR 4123. *K. K. Ghosh, K. M. V. Apparao, & S. P. Tarafdar.* 344, 437, 138-D1 (1989)

Rapid Continuum Level Variability in Be Stars Earlier than B2. *K. K. Ghosh.* 73, 103, 18-D1 (1990)

Expanding Shell and P Cygni Profiles of 27 Canis Majoris. *K. K. Ghosh.* 360, 239, 148-A5 (1990)

GHOSH, P. Dark Matter in the Universe: Massive Neutrinos Revisited. *R. Cowsik & P. Ghosh.* 317, 26, 64-C4 (1987)

A New Example of the Papaloizou-Pringle Instability. *M. A. Abramowicz, O. M. Blaes, & P. Ghosh.* 323, 629, 161-E10 (1987)

Thermodynamics and Orientational Order in Systems of Extended Gravitating Objects: A Mean-Field Theory Approach. I. Basic Formalism. *P. Bhattacharjee, P. Ghosh, & R. Cowsik.* 339, 638, 59-G1 (1989)

Thermodynamics and Orientational Order in Systems of Extended Gravitating Objects. II. Tidal Distortions and the Interaction Pseudopotential. *P. Ghosh, P. Bhattacharjee, & R. Cowsik.* 345, 647, 158-G1 (1989)

GHOSH, S. K. Far-Infrared (120–300 Micron) Observations of the Carina Nebula. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 330, 928, 102-F6 (1988)

Far-Infrared (120–300 Micron) Observations of Southern H II Regions. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 69, 233, 4-D1 (1989)

Far-Infrared and Radio Observations of the W31 Star-forming Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, R. R. Daniel, & Paul T. P. Ho.* 347, 338, 186-C3 (1989)

Far-Infrared Observations of G351.6−1.3/G351.7−1.2 Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 353, 564, 71-A1 (1990)

GIACCONI, RICCARDO. X-Ray Background, Discrete Sources, and Diffuse Processes. *Riccardo Giacconi & Giovanni Zamorani.* 313, 20, 15-B12 (1987)

GIALLONGO, EMANUELE. Quasar Colors: Statistics and Cosmological Evolution. *Emanuele Giallongo & Dario Trevese.* 353, 24, 62-D1 (1990)

GIAMPAPA, M. S. Formation of Chromospheric Lines in Cool Dwarf Stars. *L. E. Cram & M. S. Giampapa.* 323, 316, 156-D13 (1987)

GIAMPAPA, MARK S. High-Resolution Hα Observations of M Dwarf Stars: Implications for Stellar Dynamo Models and Stellar Kinematic Properties at Faint Magnitudes. *Mark S. Giampapa & James Liebert.* 305, 784, 77-D12 (1986)

Magnetic Field Measurements on the Sun and Implications for Stellar Magnetic Field Observations. *Wei-Hsin Sun, Mark S. Giampapa, & Simon P. Worden.* 312, 930, 13-B1 (1987)

The Ca II Resonance Lines in M Dwarf Stars without Hα Emission. *Mark S. Giampapa, Lawrence E. Cram, & Walter J. Wild.* 345, 536, 155-F9 (1989)

A Search for Chromospheres at Faint Magnitudes. *Thomas A. Fleming & Mark S. Giampapa.* 346, 299, 169-G5 (1989)

Chromospheric Hα and Ca II Lines in Late-Type Stars. *Richard D. Robinson, Lawrence E. Cram, & Mark S. Giampapa.* 74, 891, 43-G7 (1990)

GIBBONS, PATRICK C. Electron Energy Loss Spectrometry of Interstellar Diamonds. *Thomas J. Bernatowicz, Patrick C. Gibbons, & Roy S. Lewis.* 359, 246, 137-B5 (1990)

GIBBS, K. G. Pulsed TeV Gamma Rays Detected from Hercules X-1 during X-Ray Source Eclipse. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 308, L11, 113-F6 (1986)

Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 309, 114, 121-C4 (1986)

TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

GIBBS, KENNETH. A 153 Day Periodicity in the Occurrence of Solar Flares Producing Energetic Interplanetary Electrons. *Wolfgang Dröge, Kenneth Gibbs, John M. Grunsfeld, Peter Meyer, Brian J. Newport, Paul Evenson, & Dan Moses.* 73, 279, 21-E7 (1990)

GIBNER, P. S. Abundances of Ultraheavy Elements in the Cosmic Radiation: Results from *HEAO 3. W. R. Binns, T. L. Garrard, P. S. Gibner, M. H. Israel, M. P. Kertzman, J. Klarmann, B. J. Newport, E. C. Stone, & C. J. Waddington.* 346, 997, 179-E1 (1989)

GIBSON, D. M. An *IUE* Survey of Activity in Red Giants and Supergiants. *I. Oznovich & D. M. Gibson.* 319, 383, 97-C10 (1987)

GIEREN, WOLFGANG P. A Photometric and Radial Velocity Study of Six Southern Cepheids. II. Binarity, Radii, Luminosities, and Masses. *Iain M. Coulson, John A. R. Caldwell, & Wolfgang P. Gieren.* 303, 273, 44-B1 (1986)

The Luminosity Scale of Galactic Cepheids from Surface Brightnesses. *Wolfgang P. Gieren.* 306, 25, 81-C5 (1986)

The Galactic Cepheid Period-Luminosity Relation from the Visual Surface Brightness Method. *Wolfgang P. Gieren.* 329, 790, 85-F1 (1988)

The Period-Radius Relation for Classical Cepheids from the Visual Surface Brightness Technique. *Wolfgang P. Gieren, Thomas G. Barnes III, & Thomas J. Moffett.* 342, 467, 106-D13 (1989)

GIES, D. R. The Optical Spectrum of HDE 226868=Cygnus X-1. II. Spectrophotometry and Mass Estimates. *D. R. Gies & C. T. Bolton.* 304, 371, 58-A2 (1986)

The Optical Spectrum of HDE 226868=Cygnus X-1. III. A Focused Stellar Wind Model for He II λ4686 Emission. *D. R. Gies & C. T. Bolton.* 304, 389, 58-B6 (1986)

The Binary Frequency and Origin of the OB Runaway Stars. *D. R. Gies & C. T. Bolton.* 61, 419, 23-A3 (1986)

The Kinematical and Binary Properties of Association and Field O Stars. *D. R. Gies.* 64, 545, 24-G2 (1987)

The Line Profile Variations of Epsilon Persei. I. Evidence for Multimode Nonradial Pulsations. *D. R. Gies & A. Kullavanijaya.* 326, 813, 42-E1 (1988)

GIL, J. Triplicity of Pulsar Profiles and Orthogonal Polarization Modes. *J. Gil.* 309, 609, 128-A1 (1986)

GIL, JANUSZ. On the Frequency Independence of Pulsar Microstructure Phase. *Janusz Gil.* 308, 691, 116-E3 (1986)

GIL, JANUSZ A. Orthogonal Polarization Modes in PSR 0834+06. *Janusz A. Gil.* 314, 629, 36-D7 (1987)

GILDEN, D. Reconnection-driven Oscillations in Dwarf Novae Disks. *T. Tajima & D. Gilden.* 320, 741, 117-G10 (1987)

GILES, KEVIN. Is Interstellar Acetone Produced by Ion-Molecule Chemistry? *Eric Herbst, Kevin Giles, & David Smith.* 358, 468, 129-D5 (1990)

GILHEANY, S. The Determination of Element Abundances in the Solar Neighborhood from B-Type Stellar Spectra. I. Argon. *F. P. Keenan, B. Bates, P. L. Dufton, D. E. Holmgren, & S. Gilheany.* 348, 322, 5-A7 (1990)

GILL, A. G. A First Use of Wavelet Analysis for Molecular Clouds. *A. G. Gill & R. N. Henriksen.* 365, L27, 212-C11 (1990)

GILLESPIE, BRUCE A. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wiśniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

GILLETT, F. C. IRAS 18333−2357: An Unusual Source in M22. *F. C. Gillett, G. Neugebauer, J. P. Emerson, & W. L. Rice.* 300, 722, 11-A10 (1986)

IRAS Observations of the Nuclear Bulge of M31. *B. T. Soifer, W. L. Rice, J. R. Mould, F. C. Gillett, M. Rowan-Robinson, & H. J. Habing.* 304, 651, 63-B9 (1986)

Discovery of an Infrared-loud Quasar. *C. A. Beichman, B. T. Soifer, G. Helou, T. J. Chester, G. Neugebauer, F. C. Gillett, & F. J. Low.* 308, L1, 113-E11 (1986)

IRAS Observations of R Coronae Borealis—Detection and Study of a Fossil Shell. *F. C. Gillett, D. E. Backman, C. Beichman, & G. Neugebauer.* 310, 842, 143-B6 (1986)

Physical Processes and Infrared Emission from the Cassiopeia A Supernova Remnant. *E. Dwek, H. L. Dinerstein, F. C. Gillett, M. G. Hauser, & W. L. Rice.* 315, 571, 47-A1 (1987)

The Optical/Infrared Counterpart(s) of IRAS 18333–2357. *F. C. Gillett, G. H. Jacoby, R. R. Joyce, J. G. Cohen, G. Neugebauer, B. T. Soifer, T. Nakajima, & K. Matthews.* 338, 862, 44-F1 (1989)

IRAS 20460+1925: An Extreme Seyfert 2 and One of the Most Luminous Galaxies Known. *Jay A. Frogel, F. C. Gillett, D. M. Terndrup, & J. Patricia Vader.* 343, 672, 127-E1 (1989)

The Peculiar Planetary Nebula in M22. *J. G. Cohen & F. C. Gillett.* 346, 803, 177-C10 (1989)

GILLETT, FRED C. *IRAS* Observations of a Small Sample of Blue Irregular Galaxies. *Deidre A. Hunter, Fred C. Gillett, John S. Gallagher III, Walter L. Rice, & Frank J. Low.* 303, 171, 42-G14 (1986)

IRAS Observations of a Large Sample of Normal Irregular Galaxies. *Deidre A. Hunter, John S. Gallagher III, Walter L. Rice, & Fred C. Gillett.* 336, 152, 3-A1 (1989)

GILLIAM, L. Electric Fields and Plasma Structure in Coronal Magnetic Loops. *P. Foukal, C. Hoyt, & L. Gilliam.* 303, 861, 52-A2 (1986)

GILLILAND, RONALD L. Relation of Chromospheric Activity to Convection, Rotation, and Pre–Main-Sequence Evolution. *Ronald L. Gilliland.* 300, 339, 4-F12 (1986)

WZ Sagittae: Time-resolved Spectroscopy during Quiescence. *Ronald L. Gilliland, Edward Kemper, & Nicholas Suntzeff.* 301, 252, 16-F4 (1986)

Solar Models with Energy Transport by Weakly Interacting Particles. *Ronald L. Gilliland, John Faulkner, William H. Press, & David N. Spergel.* 306, 703, 92-C3 (1986)

On the Size of Convective Cores in Rotating, Upper–Main-Sequence Stars. *K. B. MacGregor & Ronald L. Gilliland.* 310, 273, 135-A9 (1986)

Hypercharge, Solar Structure, and Stellar Evolution. *Ronald L. Gilliland & Werner Däppen.* 313, 429, 19-F7 (1987)

Objective Characterization of Stellar Activity Cycles. I. Methods and Solar Cycle Analyses. *Ronald L. Gilliland & Sallie L. Baliunas.* 314, 766, 38-A6 (1987)

Oscillations in Solar Models with Weakly Interacting Massive Particles. *Ronald L. Gilliland & Werner Däppen.* 324, 1153, 16-B10 (1988)

A Search for Solar-like Oscillations in α Centauri A. *Timothy M. Brown & Ronald L. Gilliland.* 350, 839, 36-D5 (1990)

GILLINGHAM, P. R. Speckle Interferometry of SN 1987A up to One Year after Explosion. *P. R. Wood, P. E. J. Nulsen, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 339, 1073, 65-A1 (1989)

Speckle Interferometry of SN 1987A: Final Measurements. *P. E. J. Nulsen, P. R. Wood, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 358, 266, 125-D6 (1990)

GILMAN, DAVID A. An Upper Limit to X-Ray Emission from Saturn. *David A. Gilman, Kevin C. Hurley, Frederick D. Seward, Herbert W. Schnopper, James D. Sullivan, & Albert E. Metzger.* 300, 453, 6-A9 (1986)

GILMAN, PETER A. Rotation and Expansion within Sunspot Groups. *Peter A. Gilman & Robert Howard.* 303, 480, 46-C12 (1986)

Nonlinear Convection of a Compressible Fluid in a Rotating Spherical Shell. *Peter A. Gilman & Jack Miller.* 61, 585, 25-B14 (1986)

Meridional Motions of Sunspots and Sunspot Groups. *Robert Howard & Peter A. Gilman.* 307, 389, 99-C13 (1986)

The Influence of the Coriolis Force on Flux Tubes Rising through the Solar Convection Zone. *Arnab Rai Choudhuri & Peter A. Gilman.* 316, 788, 60-F7 (1987)

Inertial Oscillations in the Solar Convection Zone. III. A Cylidrical Model for Nonaxisymmetric Oscillations in a Superadiabatic Gradient. *Peter A. Gilman.* 318, 904, 90-G6 (1987)

Distribution of Sunspot Umbral Areas: 1917–1982. *T. J. Bogdan, Peter A. Gilman, I. Lerche, & Robert Howard.* 327, 451, 52-A5 (1988)

Angular Momentum Transport and Dynamo Action in the Sun: Implications of Recent Oscillation Measurements. *Peter A. Gilman, Cherilynn A. Morrow, & Edward E. DeLuca.* 338, 528, 39-C12 (1989)

GILMOZZI, R. Narrow Ultraviolet Emission Lines from SN 1987A: Evidence for CNO Processing in the Progenitor. *C. Fransson, A. Cassatella, R. Gilmozzi, R. P. Kirshner, N. Panagia, G. Sonneborn, & W. Wamsteker.* 336, 429, 6-E1 (1989)

Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)

Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)

GILMOZZI, ROBERTO. Discovery of an Inner Light-Echo Ring around SN 1987A. *Howard E. Bond, Roberto Gilmozzi, Michael G. Meakes, & Nino Panagia.* 354, L49, 86-C1 (1990)

GILRA, D. P. Extinction and Abundance Properties of Alpha Scorpii Circumstellar Grains. *Theodore P. Snow, Jr., Richard H. Buss, Jr., D. P. Gilra, & J. P. Swings.* 321, 921, 134-E10 (1987)

GILROY, K. K. About the Eclipsing Wolf-Rayet Binary HD 214419, CQ Cephei. *A. B. Underhill, K. K. Gilroy, & G. M. Hill.* 351, 651, 48-C1 (1990)

A Possible Meaning of the Spectrum of HD 191765, WN6. *A. B. Underhill, K. K. Gilroy, G. M. Hill, & N. Dinshaw.* 351, 666, 48-D3 (1990)

Notes on the Radial Velocities of 14 O Stars and the Emission Lines in Their Spectra. *A. B. Underhill & K. K. Gilroy.* 364, 626, 204-A3 (1990)

GILROY, KALPANA KRISHNASWAMY. Abundances of Neutron Capture Elements in Population II Stars. *Kalpana Krishnaswamy Gilroy, Christopher Sneden, Catherine A. Pilachowski, & John J. Cowan.* 327, 298, 50-C6 (1988)

Carbon Isotope Ratios and Lithium Abundances in Open Cluster Giants. *Kalpana Krishnaswamy Gilroy.* 347, 835, 193-F9 (1989)

GIMÉNEZ, ALVARO. *IUE* Observations of Z Andromedae: Spectral Variations during Quiescence and a Physical Model. *Telmo Fernández-Castro, Angelo Cassatella, Alvaro Giménez, & Roberto Viotti.* 324, 1016, 14-F5 (1988)

On the Apsidal Motion of DI Herculis. *Rafael Company, Miquel Portilla, & Alvaro Giménez.* 335, 962, 183-C4 (1988)

GINGOLD, R. A. Rotation Measure Variations across the Lobes of Extragalactic Radio Sources. *G. V. Bicknell, R. A. Cameron, & R. A. Gingold.* 357, 373, 117-C1 (1990)

GINGOLD, ROBERT A. Dynamic Fission Instabilities in Rapidly Rotating $n = 3/2$ Polytropes: A Comparison of Results from Finite-Difference and Smoothed Particle Hydrodynamics Codes. *Richard H. Durisen, Robert A. Gingold, Joel E. Tohline, & Alan P. Boss.* 305, 281, 70-B2 (1986)

GIOIA, I. M. 1E 0116.3–0116: A Peculiar, X-Ray–Bright, Early-Type Galaxy. *D. Maccagni, I. M. Gioia, T. Maccacaro, R. E. Schild, & J. T. Stocke.* 316, 132, 51-D6 (1987)

Inverse Compton Scattering of Ambient Radiation by a Cold Relativistic Jet: A Source of Beamed, Polarized X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *Mitchell C. Begelman, Marek Sikora, P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 650, 146-G12 (1987)

X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 662, 147-A10 (1987)

A Five-Band Study of Spiral Galaxies: X-Ray, Optical, Near- and Far-Infrared, and Radio Continuum Correlations. *G. Fabbiano, I. M. Gioia, & G. Trinchieri.* 324, 749, 11-E6 (1988)

A Red Envelope around a Dominant Elliptical Galaxy in an X-Ray Selected Poor Cluster. *D. Maccagni, B. Garilli, I. M. Gioia, T. Maccacaro, G. Vettolani, & A. Wolter.* 334, L1, 161-A6 (1988)

Radio Emission and the Hot Interstellar Medium of Early-Type Galaxies. *G. Fabbiano, I. M. Gioia, & G. Trinchieri.* 347, 127, 182-F3 (1989)

The *Einstein Observatory* Extended Medium-Sensitivity Survey. I. X-Ray Data and Analysis. *I. M. Gioia, T. Maccacaro, R. E. Schild, A. Wolter, J. T. Stocke, S. L. Morris, & J. P. Henry.* 72, 567, 10-C11 (1990)

The Extended Medium-Sensitivity Survey Distant Cluster Sample: X-Ray Cosmological Evolution. *I. M. Gioia, J. P. Henry,*

T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter. 356, L35, 110-A10 (1990)

GIOIA, ISABELLA. No Evidence for Radio-quiet BL Lacertae Objects. *John T. Stocke, Simon L. Morris, Isabella Gioia, Tommaso Maccacaro, R. E. Schild, & A. Wolter.* 348, 141, 2-F11 (1990)

GIOIA, ISABELLA M. On the Relationship between Optically Selected and X-Ray–selected Active Galactic Nuclei. *Alberto Franceschini, Isabella M. Gioia, & Tommaso Maccacaro.* 301, 124, 15-C9 (1986)

Rapid X-Ray and Optical Variability in the X-Ray–selected BL Lacertae Object 1E 1402.3+0416. *Paolo Giommi, Paul Barr, Isabella M. Gioia, Tommaso Maccacaro, Rudolph Schild, Bianca Garilli, & Dario Maccagni.* 303, 596, 49-A10 (1986)

On the Completeness of the Medium-Sensitivity Survey Quasar Sample. *Tommaso Maccacaro & Isabella M. Gioia.* 303, 614, 49-C2 (1986)

New X-Ray and Optical Observations of the X-Ray Discovered QSO-Galaxy Pair 1E 0104.2+3153. *Isabella M. Gioia, T. Maccacaro, R. E. Schild, P. Giommi, & J. T. Stocke.* 307, 497, 102-B8 (1986)

1E 1048.5+5421: A New 114 Minute AM Herculis Binary. *Simon L. Morris, Gary D. Schmidt, James Liebert, John Stocke, Isabella M. Gioia, & Tommaso Maccacaro.* 314, 641, 36-E8 (1987)

X-Ray–selected AGNs near Bright Galaxies. *John T. Stocke, Peter Schneider, Simon L. Morris, Isabella M. Gioia, Tommaso Maccacaro, & Rudolph E. Schild.* 315, L11, 45-A14 (1987)

Radio Continuum Observations of Early- and Late-Type Spiral Galaxies. *Isabella M. Gioia & Giuseppina Fabbiano.* 63, 771, 13-A13 (1987)

The X-Ray Spectra of the Extragalactic Sources in the *Einstein* Extended Medium-Sensitivity Survey. *Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, Giovanni Zamorani, & John T. Stocke.* 326, 680, 41-B3 (1988)

M Dwarfs from the *Einstein* Extended Medium-Sensitivity Survey. *Thomas A. Fleming, James Liebert, Isabella M. Gioia, & Tommaso Maccacaro.* 331, 958, 119-E1 (1988)

The Relation between X-Ray Emission and Rotation in Late-Type Stars from the Perspective of X-Ray Selection. *Thomas A. Fleming, Isabella M. Gioia, & Tommaso Maccacaro.* 340, 1011, 80-G8 (1989)

A Cooling Flow in a High-Redshift, X-Ray–selected Cluster of Galaxies. *Roberto Nesci, Isabella M. Gioia, Tommaso Maccacaro, Simon L. Morris, Giuseppe C. Perola, Rudolph E. Schild, & Anna Wolter.* 344, 104, 134-C11 (1989)

MS 1603.6+2600, an Unusual X-Ray Selected Binary System at High Galactic Latitude. *Simon L. Morris, James Liebert, John T. Stocke, Isabella M. Gioia, Rudy E. Schild, & Anna Wolter.* 365, 686, 216-G1 (1990)

GIOMMI, P. New X-Ray and Optical Observations of the X-Ray Discovered QSO-Galaxy Pair 1E 0104.2+3153. *Isabella M. Gioia, T. Maccacaro, R. E. Schild, P. Giommi, & J. T. Stocke.* 307, 497, 102-B8 (1986)

The Discovery of 3.8 Hour Periodic Intensity Dips and Eclipses from the Transient Low-Mass X-Ray Binary EXO 0748−676. *A. N. Parmar, N. E. White, P. Giommi, & M. Gottwald.* 308, 199, 110-C4 (1986)

Multifrequency Observations of the Blazar PKS 0537−441 in a Moderately Active State. *E. G. Tanzi, P. Barr, P. Bouchet, L. Chiappetti, S. Christiani, R. Falomo, P. Giommi, L. Maraschi, & A. Treves.* 311, L13, 152-B7 (1986)

X-Ray Studies of Quasars with the *Einstein Observatory*. IV. X-Ray Dependence on Radio Emission. *D. M. Worrall, P. Giommi, H. Tananbaum, & G. Zamorani.* 313, 596, 23-C9 (1987)

Inverse Compton Scattering of Ambient Radiation by a Cold Relativistic Jet: A Source of Beamed, Polarized X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *Mitchell C. Begelman, Marek Sikora, P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 650, 146-G12 (1987)

X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 662, 147-A10 (1987)

The Detection of a High-Energy Break in the X-Ray Spectrum of the BL Lacertae Object PKS 0548−32. *P. Barr, P. Giommi, & D. Maccagni.* 324, L11, 9-A13 (1988)

The Discovery of the 2 Hour Modulated X-Ray Source EXO 033319−2554.2, an AM Herculis System. *J. P. Osborne, P. Giommi, L. Angelini, G. Tagliaferri, & L. Stella.* 328, L45, 74-D10 (1988)

An X-Ray Flare from a B9+ Post–T Tauri Star System in the Field of the Seyfert Galaxy III Zw 2. *G. Tagliaferri, P. Giommi, L. Angelini, J. P. Osborne, & R. Pallavicini.* 331, L113, 121-G1 (1988)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

A Study of BL Lacertae–Type Objects with *EXOSAT*. I. Flux Correlations, Luminosity, Variability, and Spectral Variability. *P. Giommi, P. Barr, B. Garilli, D. Maccagni, & A. M. T. Pollock.* 356, 432, 105-F1 (1990)

GIOMMI, PAOLO. X-Rays from the Magnetic White Dwarf PG 1658+441. *Steven H. Pravdo, Francis E. Marshall, Nick E. White, & Paolo Giommi.* 300, 819, 12-B8 (1986)

Rapid X-Ray and Optical Variability in the X-Ray–selected BL Lacertae Object 1E 1402.3+0416. *Paolo Giommi, Paul Barr, Isabella M. Gioia, Tommaso Maccacaro, Rudolph Schild, Bianca Garilli, & Dario Maccagni.* 303, 596, 49-A10 (1986)

H1504+65: An Extraordinarily Hot Compact Star Devoid of Hydrogen and Helium. *J. A. Nousek, Harry L. Shipman, J. B. Holberg, James Liebert, Steven H. Pravdo, N. E. White, & Paolo Giommi.* 309, 230, 122-D9 (1986)

GIOVANARDI, C. Neutral Winds from Cool Young Stars: A Solution to the Line Deficit Problem. *A. Natta, C. Giovanardi, F. Palla, & Neal J. Evans II.* 327, 817, 57-E8 (1988)

Ionization Structure and Emission of Winds from Low-Luminosity Pre–Main-Sequence Stars. *A. Natta, C. Giovanardi, & F. Palla.* 332, 921, 134-E2 (1988)

Sodium Lines in T Tauri Stars: Diagnostics of Pre–Main-Sequence Winds. *A. Natta & C. Giovanardi.* 356, 646, 108-C3 (1990)

GIOVANARDI, CARLO. Detection of Atomic Hydrogen in the Young Planetary Nebula IC 4997. *Daniel R. Altschuler, Stephen E. Schneider, Carlo Giovanardi, & Peter R. Silverglate.* 305, L85, 80-E7 (1986)

Atomic Hydrogen in Planetary Nebulae. *Stephen E. Schneider, Peter R. Silverglate, Daniel R. Altschuler, & Carlo Giovanardi.* 314, 572, 35-G1 (1987)

GIOVANELLI, RICCARDO. Morphological Segregation in the Pisces-Perseus Supercluster. *Riccardo Giovanelli, Martha P. Haynes, & Guido L. Chincarini.* 300, 77, 1-F13 (1986)

UGC 12591: The Most Rapidly Rotating Disk Galaxy. *Riccardo Giovanelli, Martha P. Haynes, Vera C. Rubin, & W. Kent Ford, Jr.* 301, L7, 20-B4 (1986)

The Pattern of H I Deficiency in the Virgo Cluster. *Martha P. Haynes & Riccardo Giovanelli.* 306, 466, 89-E5 (1986)

The Connection between Pisces-Perseus and the Local Supercluster. *Martha P. Haynes & Riccardo Giovanelli.* 306, L55, 93-F5 (1986)

The Structure and Evolution of Hoag's Object. *François Schweizer, W. Kent Ford, Jr., Robert Jedrzejewski, & Riccardo Giovanelli.* 320, 454, 114-D3 (1987)

Far-Infrared Properties of Cluster Galaxies. *Michael D. Bicay & Riccardo Giovanelli.* 321, 645, 131-E11 (1987)

H I in Giant Elliptical Galaxies with Cooling Flows. *Joel N. Bregman, Morton S. Roberts, & Riccardo Giovanelli.* 330, L93, 104-F7 (1988)

The Pattern of Gas Deficiency in Cluster Spirals: The Correlation of H I and X-Ray Properties. *Christopher Magri, Martha P. Haynes, William Forman, Christine Jones, & Riccardo Giovanelli.* 333, 136, 139-D7 (1988)

Void Statistics, Scaling, and the Origins of Large-Scale Structure. *J. N. Fry, Riccardo Giovanelli, Martha P. Haynes, Adrian L. Melott, & Robert J. Scherrer.* 340, 11, 67-B4 (1989)

The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk,*

Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton. 340, 625, 76-C1 (1989)

A Protogalaxy in the Local Supercluster. *Riccardo Giovanelli & Martha P. Haynes.* 346, L5, 173-A10 (1989)

An Optical Counterpart of the Giant H I Cloud H I 1225+0146. *Richard G. McMahon, Michael J. Irwin, Riccardo Giovanelli, Martha P. Haynes, Arthur M. Wolfe, & C. Hazard.* 359, 302, 139-G1 (1990)

GIOVANNINI, G. VLBI Observations of a Complete Sample of Radio Galaxies. I. Snapshot Data. *G. Giovannini, L. Feretti, & G. Comoretto.* 358, 159, 124-A6 (1990)

GIOVANNONI, P. Molecule Formation in Quasar Broad-Line Cloud Gas. *T. Kallman, S. Lepp, & P. Giovannoni.* 321, 907, 134-D10 (1987)

GIOVANONI, PETER M. Neutrino Transport during the Core Bounce Phase of a Type II Supernova Explosion. *Peter M. Giovanoni, Donald C. Ellison, & Stephen W. Bruenn.* 342, 416, 105-G12 (1989)

GIRAUD, EDMOND. The Distance Moduli from the *B*-Band Tully-Fisher Relation and the Velocity Field. *Edmond Giraud.* 301, 7, 14-A14 (1986)

The Dependence of the Tully-Fisher Relation on Morphological Type. *Edmond Giraud.* 309, 512, 126-G4 (1986)

A Possible Candidate of Arclike Structure in a Southern Cluster of Galaxies. *Edmond Giraud.* 334, L69, 169-C3 (1988)

A Gravitational Lens Explanation for the Arclike Structure in Cl 0500−24. *Joachim Wambsganss, Edmond Giraud, Peter Schneider, & Achim Weiss.* 337, L73, 32-B5 (1989)

GIROUX, MARK L. Cosmological H II Regions and the Photoionization of the Intergalactic Medium. *Paul R. Shapiro & Mark L. Giroux.* 321, L107, 137-A13 (1987)

GISLER, GALEN. Electrodynamic Formation of Astrophysical Jets: Simulations. *Galen Gisler, Richard V. E. Lovelace, & Michael L. Norman.* 342, 135, 102-E14 (1989)

GIURICIN, G. The Luminosity-Diameter Relations of Elliptical Galaxies in Different Environments. *G. Giuricin, F. Mardirossian, M. Mezzetti, & A. Pisani.* 345, 101, 150-C7 (1989)

The Radio Properties of Bright Seyfert Galaxies. *G. Giuricin, F. Mardirossian, M. Mezzetti, & G. Bertotti.* 72, 551, 10-B5 (1990)

The Tully-Fisher Relation in Different Environments. *A. Biviano, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 74, 325, 35-B1 (1990)

GLACCUM, W. Far-Infrared Spectrophotometry of SN 1987A: Days 265 and 267. *S. H. Moseley, E. Dwek, W. Glaccum, J. R. Graham, R. F. Loewenstein, & R. F. Silverberg.* 347, 1119, 197-E1 (1989)

GLACCUM, W. J. Observations of 40–70 Micron Bands of Ice in IRAS 09371+1212 and Other Stars. *A. Omont, S. H. Moseley, T. Forveille, W. J. Glaccum, P. M. Harvey, L. Likkel, R. F. Loewenstein, & C. M. Lisse.* 355, L27, 92-C11 (1990)

GLASNER, AMI S. Geometrical Effects in Off-Center Detonation of Helium Shells. *Eli Livne & Ami S. Glasner.* 361, 244, 160-A3 (1990)

GLASPEY, J. W. Abundance Anomalies in Hot Horizontal-Branch Stars of the Globular Cluster NGC 6752. *J. W. Glaspey, G. Michaud, A. F. J. Moffat, & S. Demers.* 339, 926, 63-C1 (1989)

GLASS, EDWARD N. The Radial Oscillations of Neutron Stars: Erratum. *Edward N. Glass & Lee Lindblom.* 71, 173, 36-E7 (1989) (Orig. paper in 53, 93, 17-G13 (1983))

GLASS, I. S. Hot Dust on the Outskirts of the Broad-Line Region in Fairall 9. *J. Clavel, W. Wamsteker, & I. S. Glass.* 337, 236, 20-C7 (1989)

GLASSGOLD, A. E. Variability of Lyman-Alpha and the Ultraviolet Continuum of 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, & A. L. Kinney.* 301, 698, 23-C3 (1986)

Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

The Ionization Structure of the Circumstellar Envelope of Alpha Orionis. *A. E. Glassgold & P. J. Huggins.* 306, 605, 91-B11 (1986)

The Ultraviolet Spectra of Intermediate-Redshift Quasars. II. *A. L. Kinney, P. J. Huggins, A. E. Glassgold, & J. N. Bregman.* 314, 145, 29-E7 (1987)

Photochemistry and Molecular Ions in Oxygen-rich Circumstellar Envelopes. *G. A. Mamon, A. E. Glassgold, & A. Omont.* 323, 306, 156-D3 (1987)

The Photodissociation of CO in Circumstellar Envelopes. *G. A. Mamon, A. E. Glassgold, & P. J. Huggins.* 328, 797, 71-G3 (1988)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

Molecule Formation in Fast Neutral Winds from Protostars. *A. E. Glassgold, G. A. Mamon, & P. J. Huggins.* 336, L29, 8-E1 (1989)

Silicon Chemistry in Interstellar Clouds. *William D. Langer & A. E. Glassgold.* 352, 123, 51-E5 (1990)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

GLASSGOLD, ALFRED E. Radio Observations of Carbon Monoxide toward Zeta Ophiuchi: Velocity Structure, Isotopic Abundances, and Physical Properties. *William D. Langer, Alfred E. Glassgold, & Robert W. Wilson.* 322, 450, 142-G9 (1987)

Thermal Structure of Neutral Winds from Young Stellar Objects. *Steven P. Ruden, Alfred E. Glassgold, & Frank H. Shu.* 361, 546, 164-G10 (1990)

GLEESON, A. Baryonic-to-Hyperonic Transition in Collapsing Stars. *A. Gleeson, P. D. Morley, & M. Plümer.* 309, 161, 121-F10 (1986)

GLEISER, MARCELO. Large-Scale Anisotropy in the Extragalactic Gamma-Ray Background as a Probe for Cosmological Antimatter. *Yi-Tian Gao, Floyd W. Stecker, Marcelo Gleiser, & David B. Cline.* 361, L37, 168-B1 (1990)

GLEISER, REINALDO. Finite Perturbations on Perfect Fluid Friedmann-Robertson-Walker Models. *Mario Díaz, Reinaldo Gleiser, & Jorge A. Pullin.* 339, 1, 50-A9 (1989)

GLENAR, DAVID A. Mg I Absorption Features in the Solar Spectrum near 9 and 12 Microns. *David A. Glenar, Dennis C. Reuter, Drake Deming, & Edward S. Chang.* 335, L35, 177-D1 (1988)

GLENCROSS, WILLIAM. Fluorescent Molecular Hydrogen Emission from the Reflection Nebula NGC 2023. *Ian Gatley, Tetsuo Hasegawa, Hiroko Suzuki, Ron Garden, Peter Brand, John Lightfoot, William Glencross, Haruyuki Okuda, & Tetsuya Nagata.* 318, L73, 92-D4 (1987)

GLENDENNING, NORMAN K. Modulation of Pulsar Signals by Deformation of the Star. *Norman K. Glendenning.* 359, 186, 136-D1 (1990)

GLESENER, J. W. Accelerated Decay of $^{180}Ta^{m}$ and ^{176}Lu in Stellar Interiors through (γ,γ') Reactions. *J. J. Carroll, J. A. Anderson, J. W. Glesener, C. D. Eberhard, & D. B. Collins.* 344, 454, 138-E8 (1989)

GLINER, ERAST B. Formation of a Solar Coronal Transient with Forerunner. *Erast B. Gliner & Vladimir A. Osherovich.* 312, 412, 5-C12 (1987)

GLOSSON, JOHN. H I Detection Survey of a Complete Magnitude-limited Sample of Dwarf Irregular Galaxies in the Virgo Cluster Area. *G. Lyle Hoffman, George Helou, E. E. Salpeter, John Glosson, & A. Sandage.* 63, 247, 4-A5 (1987)

GODFREY, P. D. A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)

GODFREY, PETER D. New Interstellar Masers in Nonmetastable Ammonia. *Suzanne C. Madden, William M. Irvine, Henry E. Matthews, Ronald D. Brown, & Peter D. Godfrey.* 300, L79, 13-F2 (1986)

GÖRRES, J. A New Estimate of the $^{19}Ne(p,\gamma)^{20}Na$ and $^{15}O(\alpha,\gamma)^{19}Ne$ Reaction Rates at Stellar Energies. *K. Langanke, M. Wiescher,*

W. A. Fowler, & J. Görres. 301, 629, 22-E3 (1986)
The Hot Proton-Proton Chains in Low-Metallicity Objects. *M. Wiescher, J. Görres, S. Graff, L. Buchmann, & F.-K. Thielemann.* 343, 352, 122-E1 (1989)
Hydrogen Burning of ^{23}Na in the NeNa Cycle. *J. Görres, M. Wiescher, & C. Rolfs.* 343, 365, 122-F2 (1989)
Capture Reactions on ^{14}C in Nonstandard Big Bang Nucleosynthesis. *M. Wiescher, J. Görres, & F.-K. Thielemann.* 363, 340, 188-C11 (1990)

GÖRRES, JOACHIM. Alpha-Burning of ^{14}O. *Michael Wiescher, Volker Harms, Joachim Görres, Friedrich-Karl Thielemann, & Lawrence J. Rybarcyk.* 316, 162, 51-F10 (1987)
^{17}F$(p,\gamma)^{18}$Ne in Explosive Hydrogen Burning. *Michael Wiescher, Joachim Görres, & Friedrich-Karl Thielemann.* 326, 384, 36-D11 (1988)

GOERTZ, C. K. Acceleration of Runaway Electrons in Solar Flares. *E. Moghaddam-Taaheri & C. K. Goertz.* 352, 361, 54-D1 (1990)
Coagulation of Dust Particles in a Plasma. *M. Horanyi & C. K. Goertz.* 361, 155, 159-A1 (1990)

GOETZ, F. Dynamic Evolution of the Source Volumes of Gradual and Impulsive Solar Flare Emissions. *M. E. Bruner, C. J. Crannell, F. Goetz, A. Magun, & D. L. McKenzie.* 334, 494, 160-C6 (1988)

GOLDADER, JEFFREY D. The H II Regions of M101. I. An Atlas of 1264 Emission Regions. *Paul W. Hodge, Mark Gurwell, Jeffrey D. Goldader, & Robert C. Kennicutt, Jr.* 73, 661, 26-F13 (1990)

GOLDBERG, ALAN M. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

GOLDBERG, L. Diameter and Limb-darkening Measures for Alpha Orionis. *A. Y. S. Cheng, E. K. Hege, E. N. Hubbard, L. Goldberg, P. A. Strittmatter, & W. J. Cocke.* 309, 737, 129-C11 (1986)

GOLDEN, R. L. A Reexamination of the Cosmic-Ray Helium Spectrum and the ^{3}He/^{4}He Ratio at High Energies. *W. R. Webber, R. L. Golden, & R. A. Mewaldt.* 312, 178, 2-G13 (1987)

GOLDHABER, D. M. Observations of Neutral Atomic Carbon at 809 GHz. *J. Zmuidzinas, A. L. Betz, & D. M. Goldhaber.* 307, L75, 107-D11 (1986)
New Lines of Ethylene and a Search for Methylene in IRC +10216. *D. M. Goldhaber, A. L. Betz, & J. J. Ottusch.* 314, 356, 32-A13 (1987)
Neutral Atomic Carbon in Dense Molecular Clouds. *J. Zmuidzinas, A. L. Betz, R. T. Boreiko, & D. M. Goldhaber.* 335, 774, 181-B8 (1988)

GOLDHABER, M. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

GOLDREICH, P. Neutron Starquake Models for Gamma-Ray Bursts. *O. Blaes, R. Blandford, P. Goldreich, & P. Madau.* 343, 839, 129-F1 (1989)

GOLDREICH, P. M. The Dominant Local Instabilities in an Einstein–de Sitter Universe. *O. M. Blaes, P. M. Goldreich, & J. V. Villumsen.* 361, 331, 162-C4 (1990)

GOLDREICH, PETER. The Interaction of Acoustic Radiation with Turbulence. *Peter Goldreich & Pawan Kumar.* 326, 462, 37-D1 (1988)
Distribution Functions for the Time-averaged Energies of Stochastically Excited Solar *p*-Modes. *Pawan Kumar, Joel Franklin, & Peter Goldreich.* 328, 879, 72-G3 (1988)
Nonlinear Interactions among Solar Acoustic Modes. *Pawan Kumar & Peter Goldreich.* 342, 558, 107-E9 (1989)
Tides in Rotating Fluids. *Peter Goldreich & Philip D. Nicholson.* 342, 1075, 115-D10 (1989)
Tidal Friction in Early-Type Stars. *Peter Goldreich & Philip D. Nicholson.* 342, 1079, 115-E1 (1989)
Wave Generation by Turbulent Convection. *Peter Goldreich & Pawan Kumar.* 363, 694, 192-F7 (1990)

GOLDSMITH, P. F. Dense Cores in Dark Clouds. V. CO Outflow. *P. C. Myers, M. Heyer, Ronald L. Snell, & P. F. Goldsmith.* 324, 907, 13-D9 (1988)
Linear Polarization of Millimeter-Wave Emission Lines in Clouds without Large Velocity Gradients. *D. C. Lis, P. F. Goldsmith, R. L. Dickman, C. R. Predmore, A. Omont, & J. Cernicharo.* 328, 304, 65-C7 (1988)
Infrared Limb Brightening in the Barnard 5 Cloud. *C. A. Beichman, R. W. Wilson, W. D. Langer, & P. F. Goldsmith.* 332, L81, 137-D10 (1988)
Linear Polarization of HCN Maser Emission in CIT 6. *P. F. Goldsmith, D. C. Lis, A. Omont, S. Guilloteau, & R. Lucas.* 333, 873, 149-G6 (1988)
Dust and Gas Emission in Barnard 5. *W. D. Langer, R. W. Wilson, P. F. Goldsmith, & C. A. Beichman.* 337, 355, 21-F10 (1989)
Search for Circular Polarization of HCN Maser Emission in CIT 6. *D. C. Lis, P. F. Goldsmith, & C. R. Predmore.* 341, 823, 95-D2 (1989)
Polarization of the $\lambda = 1.3$ Millimeter Continuum Radiation from the Kleinmann-Low Nebula. *G. Novak, C. R. Predmore, & P. F. Goldsmith.* 355, 166, 89-A7 (1990)

GOLDSMITH, PAUL F. A Detailed Examination of the Kinematics of Rotating Dark Clouds. *Richard Arquilla & Paul F. Goldsmith.* 303, 356, 45-A4 (1986)
Molecular Outflows, Gas Density Distribution, and the Effects of Star Formation in the Dark Cloud Barnard 5. *Paul F. Goldsmith, William D. Langer, & Robert W. Wilson.* 303, L11, 47-B2 (1986)
HCN Emission from Bipolar Reflection Nebulae. *Shuji Deguchi, Mark J. Claussen, & Paul F. Goldsmith.* 303, 810, 51-D3 (1986)
Submillimeter Observations of CS in M17. *Ronald L. Snell, Neal R. Erickson, Paul F. Goldsmith, Bobby L. Ulich, Charles J. Lada, Robert N. Martin, & Andreas Schulz.* 304, 780, 64-F4 (1986)
Models of Molecular Cloud Cores. II. Multitransition Study of C^{34}S. *Lee G. Mundy, Ronald L. Snell, Neal J. Evans II, Paul F. Goldsmith, & John Bally.* 306, 670, 91-G9 (1986)
A Study of the Morphology and Kinematics of the Dense Gas Associated with Star-forming Regions. *Mark H. Heyer, Ronald L. Snell, Paul F. Goldsmith, Stephen E. Strom, & Karen M. Strom.* 308, 134, 109-E5 (1986)
Variations in the HCN/HNC Abundance Ratio in the Orion Molecular Cloud. *Paul F. Goldsmith, William M. Irvine, Åke Hjalmarson, & Joel Elldér.* 310, 383, 136-B10 (1986)
1300 Micron Continuum Observations of the Sagittarius B2 Molecular Cloud Core. *Paul F. Goldsmith, Ronald L. Snell, & Dariusz C. Lis.* 313, L5, 21-A8 (1987)
Small-Scale Structure and Chemical Differential in the Central Regions of the Sagittarius B2 Molecular Cloud. *Paul F. Goldsmith, Ronald L. Snell, T. Hasegawa, & N. Ukita.* 314, 525, 35-C6 (1987)
Models of Molecular Cloud Cores. III. A Multitransition Study of H_2CO. *Lee G. Mundy, Neal J. Evans II, Ronald L. Snell, & Paul F. Goldsmith.* 318, 392, 83-B11 (1987)
A Survey of IRAS Point Sources in Taurus for High-Velocity Molecular Gas. *Mark H. Heyer, Ronald L. Snell, Paul F. Goldsmith, & Philip C. Myers.* 321, 370, 126-C3 (1987)
The Magnetic Evolution of the Taurus Molecular Clouds. I. Large-Scale Properties. *Mark H. Heyer, Frederick J. Vrba, Ronald L. Snell, F. P. Schloerb, Stephen E. Strom, Paul F. Goldsmith, & Karen M. Strom.* 321, 855, 133-G9 (1987)
1.4 Millimeter H_2CO Observations of NGC 2071. *J. A. Tauber, Paul F. Goldsmith, & Ronald L. Snell.* 325, 846, 29-G3 (1988)
Identification of RNO 43 and B335 as Two Highly Collimated Bipolar Flows Oriented Nearly in the Plane of the Sky. *Sylvie Cabrit, Paul F. Goldsmith, & Ronald L. Snell.* 334, 196, 156-D9 (1988)
CO Isotope Studies of the Sagittarius B2 Molecular Cloud. *Dariusz C. Lis & Paul F. Goldsmith.* 337, 704, 27-F6 (1989)
Search for Molecular Oxygen in VII Zw 31. *Paul F. Goldsmith & Judith S. Young.* 341, 718, 94-C1 (1989)

High Angular Resolution Submillimeter Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, Richard Hills, & Joan Lasenby.* 350, 186, 27-D1 (1990)

Modeling of the Continuum and Molecular Line Emission from the Sagittarius B2 Molecular Cloud. *Dariusz C. Lis & Paul F. Goldsmith.* 356, 195, 101-E1 (1990)

A Model for Clumpy Giant Molecular Clouds with External Ultraviolet Heating. *Jan A. Tauber & Paul F. Goldsmith.* 356, L63, 110-D1 (1990)

A Bipolar Outflow in the Globule Lynds 810. *Taoling Xie & Paul F. Goldsmith.* 359, 378, 140-F9 (1990)

GOLDSTEIN, RAYMOND. Energetic Ion Fluxes in the Inner Coma of Comet P/Halley. *Aharon Eviatar, Raymond Goldstein, David T. Young, Hans Balsiger, Helmut Rosenbauer, & Stephen Fuselier.* 339, 545, 56-E13 (1989)

GOLDSTEIN, W. H. Resonant Excitation of $2p^5 3s$ and $2p^5 3p$ Levels in Fe XVII. *W. H. Goldstein, A. Osterheld, J. Oreg, & A. Bar-Shalom.* 344, L37, 140-D3 (1989)

GOLDSTEIN, WILLIAM H. X-Ray Spectral Signatures of Photoionized Plasmas. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 350, L37, 37-B9 (1990)

GOLDWURM, A. *EXOSAT* and *Einstein* X-Ray Observations of the SNR 1E 1149.4–6209 in Crux: A Unified Picture? *G. F. Bignami, P. A. Caraveo, A. Goldwurm, S. Mereghetti, & G. G. C. Palumbo.* 302, 606, 37-C2 (1986)

EXOSAT and *Einstein* Observations of the X-Ray Pulsar 4U 1145–619. *S. Mereghetti, G. F. Bignami, P. A. Caraveo, & A. Goldwurm.* 312, 755, 11-B11 (1987)

Diffuse *Einstein* X-Ray Emission from the Region of RCW 49, a Bright Southern Emission Nebula. *A. Goldwurm, P. A. Caraveo, & G. F. Bignami.* 322, 349, 141-E12 (1987)

GOLDWURM, ANDREA. A New 60 Millisecond X-Ray Pulsar and Its Massive Early-Type Companion. *Patrizia A. Caraveo, Giovanni F. Bignami, & Andrea Goldwurm.* 338, 338, 37-B9 (1989)

GOLISCH, BILL. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

GOLLIEZ, F. Solar Neutron Emissivity during the Large Flare on 1982 June 3. *E. L. Chupp, H. Debrunner, E. Flückiger, D. J. Forrest, F. Golliez, G. Kanbach, W. T. Vestrand, J. Cooper, & G. Share.* 318, 913, 91-A1 (1987)

GOLOMBEK, D. Imaging Observations of Gas and Dust in NGC 4696 and Implications for Cooling Flow Models. *W. B. Sparks, F. Macchetto, & D. Golombek.* 345, 153, 151-A1 (1989)

The Structure and Ionization of the Extended Emission-Line Filaments Surrounding the QSO MR 2251–178. *F. Macchetto, L. Colina, D. Golombek, M. A. C. Perryman, & S. di Serego Alighieri.* 356, 389, 105-A13 (1990)

GOLUB, L. X-Ray Spectra and the Rotation-Activity Connection of RS Canum Venaticorum Binaries. *P. Majer, J. H. M. M. Schmitt, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 300, 360, 5-A5 (1986)

Einstein Observatory Survey of X-Ray Emission from Solar-Type Stars: The Late F and G Dwarf Stars. *A. Maggio, S. Sciortino, G. S. Vaiana, P. Majer, J. Bookbinder, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 315, 687, 48-B8 (1987)

Rapid, Low-Level X-Ray Variability in Active Late-Type Dwarfs. *Carol W. Ambruster, Salvatore Sciortino, & L. Golub.* 65, 273, 32-B4 (1987)

GOMBOSI, T. I. Time-dependent Numerical Modeling of Dust Halo Formation at Comets. *T. I. Gombosi & M. Horańyi.* 311, 491, 151-D3 (1986)

GÓMEZ, A. IRAS 18059–3211: Optically Known as "Gomez's Hamburger": Erratum. *M. T. Ruiz, V. Blanco, J. Maza, S. Heathcote, A. Phillips, K. Kawara, C. Anguita, M. Hamuy, & A. Gómez.* 320, L157, 121-F14 (1987) (Orig. paper in 316, L21, 56-B10 (1987))

GOMEZ, ANA E. The Frequency and Formation Mechanism of B2–B5 Main-Sequence Binaries. *Helmut A. Abt, Ana E. Gomez, & Saul G. Levy.* 74, 551, 38-A1 (1990)

GÓMEZ, ARTURO. IRAS 18059–3211: Optically Known as "Gomez's Hamburger." *María Teresa Ruiz, Victor Blanco, José Maza, Steve Heathcote, Andrew Phillips, Kimiaki Kawara, Claudio Anguita, Mario Hamuy, & Arturo Gómez.* 316, L21, 56-B10 (1987)

GÓMEZ, D. Hopf Bifurcations in Coronal Loops. I. Stability Conditions for Static Equilibrium. *D. Gómez, A. Sicardi Schifino, & C. Ferro Fontán.* 352, 318, 53-F13 (1990)

Hopf Bifurcations in Coronal Loops. II. Nonlinear Evolution of Instabilities. *D. Gómez, A. Sicardi Schifino, & C. Ferro Fontán.* 352, 326, 53-G8 (1990)

GÓMEZ, YOLANDA. The Distance to NGC 6302. *Yolanda Gómez, James M. Moran, Luis F. Rodríguez, & Guido Garay.* 345, 862, 161-C10 (1989)

GÓMEZ-JERIA, JUAN S. Theoretical Study of CS-containing Molecules. I. *Ab Initio* Hartree-Fock Predictions for C_2S_2. *Juan S. Gómez-Jeria, Raúl G. E. Morales, & Luis M. Reyes.* 302, 488, 33-E7 (1986)

GONATAS, D. P. Polarization of Far-Infrared Radiation from Molecular Clouds. *G. Novak, D. P. Gonatas, R. H. Hildebrand, S. R. Platt, & M. Dragovan.* 345, 802, 160-F1 (1989)

The Far-Infrared Polarization of the Orion Nebula. *D. P. Gonatas, G. A. Engargiola, R. H. Hildebrand, S. R. Platt, X. D. Wu, J. A. Davidson, G. Novak, D. K. Aitken, & C. Smith.* 357, 132, 112-F4 (1990)

The Magnetic Field in the Dust Ring at the Center of the Galaxy. *R. H. Hildebrand, D. P. Gonatas, S. R. Platt, X. D. Wu, J. A. Davidson, M. W. Werner, G. Novak, & M. Morris.* 362, 114, 170-E3 (1990)

GÓNGORA-T., A. Relative Strengths of Spectral Lines with Mixed Vector Couplings: Dipole Transitions between *LS* and Other Couplings. *V. Escalante & A. Góngora-T.* 74, 819, 42-A5 (1990)

GONZALEZ, J. JESUS. Correlations between Line Strengths and Fine Structure in Elliptical Galaxies. *François Schweizer, Patrick Seitzer, S. M. Faber, David Burstein, Cristina M. Dalle Ore, & J. Jesus Gonzalez.* 364, L33, 205-C13 (1990)

GONZÁLEZ, LUIS E. ER 8: A Very Low Luminosity Degenerate Star. *María Teresa Ruiz, José Maza, Marina Wischnjewsky, & Luis E. González.* 304, L25, 61-B12 (1986)

Calán-Tololo Survey. I. Seyfert 1 Galaxies. *José Maza, María Teresa Ruiz, Luis E. González, & Marina Wischnjewsky.* 69, 349, 6-B1 (1989)

GONZALEZ, RAYMOND. Synthesis Mapping of a Solar Type I Storm Simultaneously at 90 and 20 Centimeters with the VLA. *Shadia Rifai Habbal, Nancy E. Ellman, & Raymond Gonzalez.* 342, 594, 108-A10 (1989)

GONZÁLEZ-RIESTRA, ROSARIO. Ultraviolet and Infrared Monitoring of FG Sagittae during 1982–1989: Evolutionary Status. *Benjamin Montesinos, Angelo Cassatella, Rosario González-Riestra, Telmo Fernández-Castro, Carlos Eiroa, & Jesús Jiménez-Fuensalida.* 363, 245, 185-B8 (1990)

GONZÁLEZ-SERRANO, J. I. CCD Photometry of the M87 Jet. *I. Pérez-Fournon, L. Colina, J. I. González-Serrano, & P. L. Biermann.* 329, L81, 89-C7 (1988)

A Stellar Disk Perpendicular to the Radio Jet in B2 0034+25. *J. I. González-Serrano & I. Pérez-Fournon.* 338, L29, 40-E1 (1989)

GOOD, J. C. The Far-Infrared Luminosity of Molecular Clouds in the Galaxy. *N. Z. Scoville & J. C. Good.* 339, 149, 51-G5 (1989)

GOOD, JOHN C. *IRAS* Constraints on a Cold Cloud around the Solar System. *Hartmut H. Aumann & John C. Good.* 350, 408, 30-A7 (1990)

GOODE, PHILIP. Inferring the Sun's Internal Angular Velocity from Observed p-Mode Frequency Splittings. *Timothy M. Brown, Jørgen Christensen-Dalsgaard, Wojciech A. Dziembowski, Philip Goode, Douglas O. Gough, & Cherilynn A. Morrow.* 343, 526, 124-E6 (1989)

GOODE, PHILIP R. On the Expansion of the Rotational Eigenfrequencies in Legendre Polynomials. *Bernard R. Durney, Frank Hill, & Philip R. Goode.* 326, 486, 37-E11 (1988)

The Radial Gradient in the Sun's Rotation. *W. A. Dziembowski, Philip R. Goode, & K. G. Libbrecht.* 337, L53, 25-E5 (1989)

The Toroidal Magnetic Field inside the Sun. *W. A. Dziembowski & Philip R. Goode.* 347, 540, 188-F1 (1989)

Consistency in Trends in Helioseismic Data and Photospheric Temperature Data through the Solar Cycle. *Philip R. Goode & J. R. Kuhn.* 356, 310, 102-G7 (1990)

GOODINGS, D. A. Chaos in SS Cygni? *John K. Cannizzo & D. A. Goodings.* 334, L31, 161-D1 (1988)

A Search for Chaotic Behavior in the Light Curves of Three Long-Period Variables. *John K. Cannizzo, D. A. Goodings, & Janet A. Mattei.* 357, 235, 114-A6 (1990)

GOODMAN, A. A. Evidence for Magnetic and Virial Equilibrium in Molecular Clouds. *P. C. Myers & A. A. Goodman.* 326, L27, 38-C6 (1988)

Magnetic Molecular Clouds: Indirect Evidence for Magnetic Support and Ambipolar Diffusion. *P. C. Myers & A. A. Goodman.* 329, 392, 79-D4 (1988)

Measurement of Magnetic Field Strength in the Dark Cloud Barnard 1. *A. A. Goodman, R. M. Crutcher, C. Heiles, P. C. Myers, & T. H. Troland.* 338, L61, 49-C5 (1989)

Optical Polarization Maps of Star-forming Regions in Perseus, Taurus, and Ophiuchus. *A. A. Goodman, P. Bastien, P. C. Myers, & F. Ménard.* 359, 363, 140-E6 (1990)

GOODMAN, JEREMY. Dynamical Instabilities in Spherical Stellar Systems. *Joshua Barnes, Jeremy Goodman, & Piet Hut.* 300, 112, 2-B12 (1986)

Are Gamma-Ray Bursts Optically Thick? *Jeremy Goodman.* 308, L47, 120-E10 (1986)

Sinking Satellites of Spiral Systems. *P. J. Quinn & Jeremy Goodman.* 309, 472, 126-D5 (1986)

On Gravothermal Oscillations. *Jeremy Goodman.* 313, 576, 23-B1 (1987)

Neutrino Annihilation in Type II Supernovae. *Jeremy Goodman, Arnon Dar, & Shmuel Nussinov.* 314, L7, 33-B9 (1987)

An Instability Test for Nonrotating Galaxies. *Jeremy Goodman.* 329, 612, 83-D1 (1988)

Black Holes or Dark Clusters in M31 and M32? *Jeremy Goodman & Hyung Mok Lee.* 337, 84, 18-B1 (1989)

Adiabatic Growth of a Black Hole in a Rotating Stellar System. *Man Hoi Lee & Jeremy Goodman.* 343, 594, 125-E4 (1989)

The Disk Accretion of a Tidally Disrupted Star onto a Massive Black Hole. *John K. Cannizzo, Hyung Mok Lee, & Jeremy Goodman.* 351, 38, 38-E1 (1990)

Convective Instability of Hollow Sedov-Taylor Blast Waves. *Jeremy Goodman.* 358, 214, 124-F9 (1990)

GOODRICH, BRET. A Study of the Eclipsing Cataclysmic Variable Lanning 90. *Peter M. Garnavich, Paula Szkody, Mario Mateo, Laurie Feinswog, John Booth, Bret Goodrich, H. Richard Miller, Michael T. Carini, & John W. Wilson.* 365, 696, 216-G13 (1990)

GOODRICH, R. W. Spectropolarimetry of the Unusual High-Polarization Quasar OI 287. *R. W. Goodrich & J. S. Miller.* 331, 332, 109-G8 (1988)

Spectropolarimetry of High-Polarization Seyfert 2 Galaxies and Unified Seyfert Theories. *J. S. Miller & R. W. Goodrich.* 355, 456, 94-B1 (1990)

GOODRICH, ROBERT W. Ultraviolet Spectrophotometry of Three LINERs. *Robert W. Goodrich & William C. Keel.* 305, 148, 68-E7 (1986)

Near-simultaneous Ultraviolet and Optical Spectrophotometry of T Tauri Stars. *G. H. Herbig & Robert W. Goodrich.* 309, 294, 123-B5 (1986)

V645 Cygni and the Duck Nebula. *Robert W. Goodrich.* 311, 882, 157-D8 (1986)

Highest Velocity Ejecta of Cassiopeia A. *Robert A. Fesen, Robert H. Becker, & Robert W. Goodrich.* 329, L89, 89-D3 (1988)

Spectropolarimetry and Variability of Seyfert 1.8 and 1.9 Galaxies. *Robert W. Goodrich.* 340, 190, 69-D10 (1989)

Spectropolarimetry of "Narrow-Line" Seyfert 1 Galaxies. *Robert W. Goodrich.* 342, 224, 103-F1 (1989)

SN 1961V: An Extragalactic Eta Carinae Analog? *Robert W. Goodrich, Guy S. Stringfellow, G. Donald Penrod, & Alexei V. Filippenko.* 342, 908, 113-E3 (1989)

Spectropolarimetry of Cygnus A and the Scattering Model for the Extended Continuum. *Robert W. Goodrich & J. S. Miller.* 346, L21, 173-C5 (1989)

Paβ Measurements and Reddening in Seyfert 1.8 and 1.9 Galaxies. *Robert W. Goodrich.* 355, 88, 88-B1 (1990)

GOORVITCH, D. The C_2 Ballik-Ramsay Transitions in Carbon Stars. *D. Goorvitch.* 74, 769, 41-D5 (1990)

GOOSENS, M. Viscous Normal Modes on Coronal Inhomogeneities and Their Role as a Heating Mechanism. *R. S. Steinolfson, E. R. Priest, S. Poedts, L. Nocera, & M. Goosens.* 304, 526, 59-F3 (1986)

GOOSSENS, MARCEL. On the Efficiency of Coronal Loop Heating by Resonant Absorption. *Stefaan Poedts, Marcel Goossens, & Wolfgang Kerner.* 360, 279, 148-D10 (1990)

GOPALAKRISHNAN, N. V. Observations of Steady Flux of PeV–Energy Extensive Air Showers from Cygnus X-3 during 1984–1986. *S. C. Tonwar, N. V. Gopalakrishnan, M. R. Rajeev, & B. V. Sreekantan.* 330, L107, 104-G7 (1988)

GOPAL-KRISHNA. On Spectral Aging in Lobes of Double Radio Sources. *Paul J. Wiita & Gopal-Krishna.* 353, 476, 70-A1 (1990)

GOPALSWAMY, N. The Radio Signatures of a Slow Coronal Mass Ejection: Electron Acceleration at Slow-Mode Shocks? *M. Kundu, N. Gopalswamy, S. White, P. Cargill, E. J. Schmahl, & E. Hildner.* 347, 505, 188-C3 (1989)

First High Spatial Resolution Interferometric Observations of Solar Flares at Millimeter Wavelengths. *M. R. Kundu, S. M. White, N. Gopalswamy, J. H. Bieging, & G. J. Hurford.* 358, L69, 133-E8 (1990)

The Observation of an Unusually Fast Type IV Plasmoid. *N. Gopalswamy & M. R. Kundu.* 365, L31, 212-D1 (1990)

GORDON, G. A. The Distance to M5 from Its RR Lyrae Variables. *J. G. Cohen & G. A. Gordon.* 318, 215, 81-C4 (1987)

GORDON, M. A. Filled-Aperture Maps of Selected H II Regions at 3.5 Millimeters. *M. A. Gordon, P. R. Jewell, M. A. Kaftan-Kassim, & C. J. Salter.* 308, 288, 111-B12 (1986)

The Continuum Spectra of Dust Complexes Associated with W3 Main, M42, W49A, and W51A. *M. A. Gordon.* 316, 258, 52-G5 (1987)

Maps of Dust Clouds at 1.3 Millimeters Associated with Bright H II Regions. *M. A. Gordon & P. R. Jewell.* 323, 766, 163-B5 (1987)

The Continuum Spectra of Warm Cloud Complexes Associated with Radio-Bright H II Regions. *M. A. Gordon.* 331, 509, 112-A8 (1988)

Millimeter-Wave Recombination Lines from Radio-bright H II Regions. *M. A. Gordon.* 337, 782, 28-F5 (1989)

Millimeter-Wavelength Observations of SS 433 and Its Environs. *D. L. Band & M. A. Gordon.* 338, 945, 45-E9 (1989)

The Continuum Spectra of Warm Cloud Complexes Associated with Radio-bright H II Regions: Erratum. *M. A. Gordon.* 342, 1212, 117-A6 (1989) (Orig. paper in 331, 509, 112-A8 (1988))

Detection of CO in the E0 Galaxy NGC 3928. *M. A. Gordon.* 350, L29, 37-B1 (1990)

Continuum Emission from the Star-forming Regions Cepheus A and B. *M. A. Gordon.* 352, 636, 59-A1 (1990)

An Observational Study of Millimeter-Wave Recombination Lines. *M. A. Gordon & C. M. Walmsley.* 365, 606, 215-F11 (1990)

GORENSTEIN, M. V. VLBI Observations of 23 Hot Spots in the Starburst Galaxy M82. *N. Bartel, M. I. Ratner, A. E. E. Rogers, I. I. Shapiro, R. J. Bonometti, N. L. Cohen, M. V. Gorenstein, J. M. Marcaide, & R. A. Preston.* 323, 505, 160-B3 (1987)

Degeneracies in Parameter Estimates for Models of Gravitational Lens Systems. *M. V. Gorenstein, E. E. Falco, & I. I. Shapiro.* 327, 693, 56-C3 (1988)

VLBI Observations of the Gravitational Lens System 0957+561: Structure and Relative Magnification of the A and B Images. *M. V. Gorenstein, N. L. Cohen, I. I. Shapiro, A. E. E. Rogers, R. J. Bonometti, E. E. Falco, N. Bartel, & J. M. Marcaide.* 334, 42, 154-E1 (1988)

GORENSTEIN, P. An X-Ray and Optical Study of the Cluster of Galaxies Abell 754. *D. Fabricant, T. C. Beers, M. J. Geller, P. Gorenstein, J. P. Huchra, & M. J. Kurtz.* 308, 530, 114-F4 (1986)

Measurements of the Gas Temperature and Iron Abundance Distribution in the Coma Cluster. *John P. Hughes, P. Gorenstein, & D. Fabricant.* 329, 82, 75-G6 (1988)

GORENSTEIN, PAUL. Measurements of X-Ray Scattering from Interstellar Grains. *Christopher W. Mauche & Paul Gorenstein.* 302, 371, 32-C11 (1986)

X-Ray Halos around Supernova Remnants. *Christopher W. Mauche & Paul Gorenstein.* 336, 843, 13-A1 (1989)

GORHAM, P. W. Gravitational Light Deflection Effects in Eclipsing Binary Pulsars. *P. W. Gorham.* 303, 601, 49-B1 (1986)

Pulsed TeV Gamma Rays Detected from Hercules X-1 during X-Ray Source Eclipse. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 308, L11, 113-F6 (1986)

Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 309, 114, 121-C4 (1986)

TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

GORHAM, PETER W. A Radio/Infrared/Optical Study of Candidate Supernova Remnants from the Clark Lake 30.9 MHz Galactic Plane Survey. *Peter W. Gorham.* 364, 187, 196-D1 (1990)

GORODETSKY, DMITRY I. Some Results of the Narrow-Band Photometry of Comet Halley (1986 III). *Klim I. Churyumov, Vera K. Rozenbush, Farid K. Rspayev, & Dmitry I. Gorodetsky.* 356, 687, 108-F13 (1990)

GOROFF, M. H. Coupling of Modes of Cosmological Mass Density Fluctuations. *M. H. Goroff, B. Grinstein, S.-J. Rey, & M. B. Wise.* 311, 6, 146-A12 (1986)

GÓRRES, J. *rp*-Process Reactions in the Calcium Region. *M. Wiescher & J. Górres.* 346, 1041, 180-A7 (1989)

GÓRSKI, KRZYSZTOF. Minimal Cosmic Background Fluctuations Implied by Streaming Motions. *Roman Juszkiewicz, Krzysztof Górski, & Joseph Silk.* 323, L1, 158-A4 (1987)

On the Pattern of Perturbations of the Hubble Flow. *Krzysztof Górski.* 332, L7, 129-B10 (1988)

Cosmological Velocity Correlations: Observations and Model Predictions. *Krzysztof Górski, Marc Davis, Michael A. Strauss, Simon D. M. White, & Amos Yahil.* 344, 1, 133-A9 (1989)

GÓRSKI, KRZYSZTOF M. Large-Scale Cosmic Microwave Background Anisotropies in Isocurvature Baryon Open Universe Models. *Krzysztof M. Górski & Joseph Silk.* 346, L1, 173-A6 (1989)

Can a Thick Accretion Disk Lose Its Angular Momentum to Gravitational Radiation? *W. H. Zurek & Krzysztof M. Górski.* 347, L17, 189-C5 (1989)

GOSS, W. M. Aperture Synthesis Observations of the 21 Centimeter Zeeman Effect toward Cassiopeia A. *U. J. Schwarz, T. H. Troland, J. S. Albinson, J. D. Bregman, W. M. Goss, & Carl Heiles.* 301, 320, 17-D4 (1986)

Period Derivative of the Millisecond Pulsar in Globular Cluster M28. *R. S. Foster, D. C. Backer, J. H. Taylor, & W. M. Goss.* 326, L13, 38-B5 (1988)

Aperture Synthesis Observations of the 21 Centimeter Zeeman Effect toward Orion A. *T. H. Troland, C. Heiles, & W. M. Goss.* 337, 342, 21-E9 (1989)

VLA Observations of Circumnebular Neutral Hydrogen in IC 418. *A. R. Taylor, G. T. Gussie, & W. M. Goss.* 340, 932, 80-A6 (1989)

Radio Studies of the Galactic Center. I. The Sagittarius A Complex. *A. Pedlar, K. R. Anantharamaiah, R. D. Ekers, W. M. Goss, J. H. van Gorkom, U. J. Schwarz, & Jun-hui Zhao.* 342, 769, 112-A1 (1989)

The Structure of the Interstellar Medium at the 25 AU Scale. *P. J. Diamond, W. M. Goss, J. D. Romney, R. S. Booth, P. M. W. Kalberla, & U. Mebold.* 347, 302, 185-G3 (1989)

Structure of the Magnetic Field in the W3 Core. *T. H. Troland, R. M. Crutcher, W. M. Goss, & C. Heiles.* 347, L89, 199-E5 (1989)

The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

Deep Radio Synthesis Images of Globular Clusters. *S. R. Kulkarni, W. M. Goss, A. Wolszczan, & J. Middleditch.* 363, L5, 187-A10 (1990)

Subparsec-Size H I Cloudlets Associated with Orion A. *Paul P. van der Werf & W. M. Goss.* 364, 157, 196-A5 (1990)

The Integrated Flux Density of Pulsars in Globular Clusters. *A. S. Fruchter & W. M. Goss.* 365, L63, 219-D1 (1990)

GOSS, W. MILLER. Three Fields Containing Young Pulsars: The Observable Lifetime of Supernova Remnants. *Robert Braun, W. Miller Goss, & Andrew G. Lyne.* 340, 355, 71-D11 (1989)

VLA Observations of the 6 Centimeter and 2 Centimeter Lines of H_2CO in the Direction of W49. *Hélène R. Dickel & W. Miller Goss.* 351, 189, 40-D2 (1990)

GOSWAMI, J. N. Evidence in Meteorites for an Active Early Sun. *M. W. Caffee, C. M. Hohenberg, T. D. Swindle, & J. N. Goswami.* 313, L31, 21-C3 (1987)

^{16}O Excesses in Murchison and Murray Hibonites: A Case against a Late Supernova Injection Origin of Isotopic Anomalies in O, Mg, Ca, and Ti. *A. J. Fahey, J. N. Goswami, K. D. McKeegan, & E. K. Zinner.* 323, L91, 158-G5 (1987)

Observation of Low-Energy (30–100 MeV Nucleon^{-1}) Partially Ionized Heavy Ions in Galactic Cosmic Rays. *S. Biswas, N. Durgaprasad, Banashree Mitra, R. K. Singh, A. Dutta, & J. N. Goswami.* 359, L5, 138-A11 (1990)

GOSWAMI, JITENDRA N. Large ^{48}Ca Anomalies Are Associated with ^{50}Ti Anomalies in Murchison and Murray Hibonites. *Ernst K. Zinner, Albert J. Fahey, Jitendra N. Goswami, Trevor R. Ireland, & Kevin D. McKeegan.* 311, L103, 160-G1 (1986)

GOTT, J. R., III. Cluster-Cluster Correlations and Constraints on the Correlation Hierarchy. *A. J. S. Hamilton & J. R. Gott III.* 331, 641, 115-G3 (1988)

GOTT, J. RICHARD, III. The Sponge-like Topology of Large-Scale Structure in the Universe. *J. Richard Gott III, Adrian L. Melott, & Mark Dickinson.* 306, 341, 88-C1 (1986)

The Topology of the Large-Scale Structure of the Universe. *A. J. S. Hamilton, J. Richard Gott III, & David Weinberg.* 309, 1, 120-A9 (1986)

The Spatial Distribution of Dwarf Galaxies in the CfA Slice of the Universe. *Trinh X. Thuan, J. Richard Gott III, & Stephen E. Schneider.* 315, L93, 49-C2 (1987)

A Quantitative Approach to the Topology of Large-Scale Structure. *J. Richard Gott III, David H. Weinberg, & Adrian L. Melott.* 319, 1, 93-A7 (1987)

The Topology of Large-Scale Structure. Topology and the Random Phase Hypothesis. *David H. Weinberg, J. Richard Gott III, & Adrian L. Melott.* 321, 2, 122-A8 (1987)

The Topology of Large-Scale Structure. II. Nonlinear Evolution of Gaussian Models. *Adrian L. Melott, David H. Weinberg, & J. Richard Gott III.* 328, 50, 62-E3 (1988)

Setting Limits on q_0 from Gravitational Lensing. *J. Richard Gott III, Myeong-Gu Park, & Hyung Mok Lee.* 338, 1, 33-A9 (1989)

The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

The Area of Isodensity Contours in Cosmological Models and Galaxy Surveys. *Barbara S. Ryden, Adrian L. Melott, David A. Craig, J. Richard Gott III, David H. Weinberg, Robert J. Scherrer, Suketu P. Bhavsar, & John M. Miller.* 340, 647, 76-E1 (1989)

Topology of Large-Scale Structure. IV. Topology in Two Dimensions. *Adrian L. Melott, Alexander P. Cohen, Andrew J. S. Hamilton, J. Richard Gott III, & David H. Weinberg.* 345, 618, 158-D1 (1989)

Topology of Microwave Background Fluctuations: Theory. *J. Richard Gott III, Changbom Park, Roman Juszkiewicz, William E. Bies, David P. Bennett, François R. Bouchet, & Albert Stebbins.* 352, 1, 50-A11 (1990)

Weak Gravitational Lensing Due to Large-Scale Structure of the Universe. *Michał Jaroszyński, Changbom Park, Bohdan Paczyński, & J. Richard Gott III.* 365, 22, 206-C10 (1990)

GOTTARDI, M. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

GOTTESMAN, S. T. Dynamical Models of the Barred Spiral Galaxy NGC 3992. *J. H. Hunter, Jr., R. Ball, J. M. Huntley, Martin N.*

England, & S. T. Gottesman. 324, 721, 11-B14 (1988)
Comparison of Stellar and Gasdynamics of a Barred Galaxy. *G. Contopoulos, S. T. Gottesman, J. H. Hunter, Jr., & M. N. England.* 343, 608, 126-G1 (1989)
High-Resolution Observations, Kinematics, and Dynamics of the Barred Spiral NGC 1073. *Martin N. England, S. T. Gottesman, & J. H. Hunter, Jr.* 348, 456, 8-C4 (1990)
GOTTLIEB, C. A. The Rotational Spectrum of the C_3H Radical. *C. A. Gottlieb, E. W. Gottlieb, P. Thaddeus, & J. M. Vrtilek.* 303, 446, 46-A4 (1986)
Laboratory and Astronomical Spectroscopy of C_3H_2, the First Interstellar Organic Ring. *J. M. Vrtilek, C. A. Gottlieb, & P. Thaddeus.* 314, 716, 37-D8 (1987)
The Radio Spectrum of Cyclopropene. *J. M. Vrtilek, C. A. Gottlieb, T. J. LePage, & P. Thaddeus.* 316, 826, 61-B4 (1987)
The Radio Spectrum of the C_4D Radical. *D. R. Woodward, J. C. Pearson, C. A. Gottlieb, & P. Thaddeus.* 333, L29, 144-C8 (1988)
Astronomical and Laboratory Detection of the SiC Radical. *J. Cernicharo, C. A. Gottlieb, M. Guélin, P. Thaddeus, & J. M. Vrtilek.* 341, L25, 91-C4 (1989)
Laboratory Measurement of the Rotational Spectrum of SiCC. *C. A. Gottlieb, J. M. Vrtilek, & P. Thaddeus.* 343, L29, 125-D9 (1989)
Rotational Spectra of Carbon 13 and Vibrationally Excited SiC. *R. Mollaaghababa, C. A. Gottlieb, J. M. Vrtilek, & P. Thaddeus.* 352, L21, 55-C6 (1990)
Laboratory Detection of Propadienylidene, H_2CCC. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, T. C. Killian, & P. Thaddeus.* 364, L53, 205-E13 (1990)
Laboratory Detection of a Second Carbon Chain Carbene: Butatrienylidene, H_2CCCC. *T. C. Killian, J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, & P. Thaddeus.* 365, L89, 219-F11 (1990)
GOTTLIEB, E. W. The Rotational Spectrum of the C_3H Radical. *C. A. Gottlieb, E. W. Gottlieb, P. Thaddeus, & J. M. Vrtilek.* 303, 446, 46-A4 (1986)
Laboratory Detection of Propadienylidene, H_2CCC. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, T. C. Killian, & P. Thaddeus.* 364, L53, 205-E13 (1990)
Laboratory Detection of a Second Carbon Chain Carbene: Butatrienylidene, H_2CCCC. *T. C. Killian, J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, & P. Thaddeus.* 365, L89, 219-F11 (1990)
GOTTWALD, M. The Discovery of 3.8 Hour Periodic Intensity Dips and Eclipses from the Transient Low-Mass X-Ray Binary EXO 0748−676. *A. N. Parmar, N. E. White, P. Giommi, & M. Gottwald.* 308, 199, 110-C4 (1986)
The Bursting Behavior of the Transient X-Ray Burst Source EXO 0748−676: A Dependence between the X-Ray Burst Properties and the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. N. Parmar, & N. E. White.* 308, 213, 110-D4 (1986)
EXOSAT Observations of Double-peaked Bursts with Radius Expansion from 4U/MXB 1820−30. *F. Haberl, L. Stella, N. E. White, W. C. Priedhorsky, & M. Gottwald.* 314, 266, 31-A9 (1987)
EXOSAT Observations of 4U 1705−44: Type I Bursts and Persistent Emission. *A. Langmeier, M. Sztajno, G. Hasinger, J. Trümper, & M. Gottwald.* 323, 288, 156-B13 (1987)
The Properties of Bursts with Short Recurrence Times from the Transient X-Ray Source EXO 0748−676. *M. Gottwald, F. Haberl, A. N. Parmar, & N. E. White.* 323, 575, 161-A11 (1987)
The Discovery of 2.93 Hour Periodic Intensity Dips from X1323−619. *A. N. Parmar, M. Gottwald, M. van der Klis, & J. van Paradijs.* 338, 1024, 46-E1 (1989)
X-Ray Bursts from 4U 1705−44: Another Case of Burst Properties Dependent on the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. Langmeier, G. Hasinger, W. H. G. Lewin, & J. van Paradijs.* 339, 1044, 64-E8 (1989)
GOUDA, NAOTERU. Small-scale Anisotropies in the Microwave Background in a Baryon-dominated Open Universe. *Naoteru Gouda, Misao Sasaki, & Yasushi Suto.* 321, L1, 129-B4 (1987)
Evolution of Perturbations in a Baryon-dominated Universe: Gauge-invariant Analysis. *Naoteru Gouda, Misao Sasaki, & Yasushi Suto.* 341, 557, 92-C1 (1989)
Microwave Background Anisotropies and the Primordial Spectrum of Cosmological Density Fluctuations. *Yasushi Suto, Naoteru Gouda, & Naoshi Sugiyama.* 74, 665, 40-B1 (1990)
Constraints on Universe Models with Cosmological Constant from Cosmic Microwave Background Anisotropy. *Naoshi Sugiyama, Naoteru Gouda, & Misao Sasaki.* 365, 432, 213-D1 (1990)
GOUGH, D. O. Seismology of Solar Oscillation Line Widths. *J. Christensen-Dalsgaard, D. O. Gough, & K. G. Libbrecht.* 341, L103, 100-C9 (1989)
Effluent Stellar Pulsation. *N. J. Balmforth & D. O. Gough.* 362, 256, 172-D1 (1990)
GOUGH, DOUGLAS. Nonlinear Behavior of Solar Gravity Modes Driven by ^{3}He in the Core. I. Bifurcation Analysis. *William J. Merryfield, Juri Toomre, & Douglas Gough.* 353, 678, 72-C8 (1990)
GOUGH, DOUGLAS O. Inferring the Sun's Internal Angular Velocity from Observed *p*-Mode Frequency Splittings. *Timothy M. Brown, Jørgen Christensen-Dalsgaard, Wojciech A. Dziembowski, Philip Goode, Douglas O. Gough, & Cherilynn A. Morrow.* 343, 526, 124-E6 (1989)
GOUGUENHEIM, L. The Malmquist Bias in the Extragalactic Distance Scale: Controversies and Misconceptions. *L. Bottinelli, L. Gouguenheim, G. Paturel, & P. Teerikorpi.* 328, 4, 62-A10 (1988)
The Extragalactic Distance Scale. II. The Unbiased Distance to the Virgo Cluster from the *B*-Band Tully-Fisher Relation. *P. Fouqué, L. Bottinelli, L. Gouguenheim, & G. Paturel.* 349, 1, 14-A10 (1990)
GOUIFFES, CHRISTIAN. Observations of the Nebulosities near SN 1987A. *E. Joseph Wampler, Lifan Wang, Dietrich Baade, Klaus Banse, Sandro D'Odorico, Christian Gouiffes, & Massimo Tarenghi.* 362, L13, 174-B9 (1990)
GOULD, ANDREW. Weakly Interacting Massive Particle Distribution in and Evaporation from the Sun. *Andrew Gould.* 321, 560, 128-C3 (1987)
Resonant Enhancements in Weakly Interacting Massive Particle Capture by the Earth. *Andrew Gould.* 321, 571, 128-D1 (1987)
Direct and Indirect Capture of Weakly Interacting Massive Particles by the Earth. *Andrew Gould.* 328, 919, 73-C6 (1988)
Role of High-Altitude Tracers in the Measurement of the Galactic Disk Potential. *Andrew Gould.* 341, 748, 94-E9 (1989)
Thermal Conduction by Massive Particles. *Andrew Gould & Georg Raffelt.* 352, 654, 59-B7 (1990)
Cosmion Energy Transfer in Stars: The Knudsen Limit. *Andrew Gould & Georg Raffelt.* 352, 669, 59-C9 (1990)
Evaporation of WIMPs with Arbitrary Cross Sections. *Andrew Gould.* 356, 302, 102-F11 (1990)
The Planning and Analysis of Galactic Disk Tracer Observations. *Andrew Gould.* 360, 504, 152-E7 (1990)
GOULD, ROBERT J. Low-Energy Electron-Atom Bremsstrahlung. *Robert J. Gould.* 302, 205, 30-B9 (1986)
Born-Approximation and Radiative Corrections to Pair Production in Photon-Photon Collisions. *Robert J. Gould.* 337, 950, 30-E11 (1989)
Direct Positron Annihilation and Positronium Formation in Thermal Plasmas. *Robert J. Gould.* 344, 232, 135-G9 (1989)
Thermonuclear Breakup Reactions of Light Nuclei. I. Processes and Effects. *Nidhal Guessoum & Robert J. Gould.* 345, 356, 153-E5 (1989)
The Cross Section for $p + p \rightarrow d + e^+ + \nu_e$. *Robert J. Gould & Nidhal Guessoum.* 359, L67, 144-D5 (1990)
Multipole Radiation in Charged-Particle Scattering. *Robert J. Gould.* 362, 284, 172-F7 (1990)
The Effects of Vacuum Polarization on Thermonuclear Reaction Rates. *Robert J. Gould.* 363, 574, 191-C7 (1990)
GOUTTEBROZE, PIERRE. Solar Atmospheric Dynamics. III. The Effect of Acoustic Waves on the Mg II *k* Line Profile. *Pierre Gouttebroze.* 337, 536, 24-B12 (1989)
GOWER, ANN C. Radio Evolution of Quasars at $z < 1$. *J. B. Hutchings, Rob Price, & Ann C. Gower.* 329, 122, 76-C11 (1988)
GRABELSKY, D. A. Molecular Clouds in the Carina Arm: Large-Scale Properties of Molecular Gas and Comparison with H I. *D. A. Grabelsky, R. S. Cohen, L. Bronfman, P. Thaddeus, & J. May.* 315, 122, 41-D2 (1987)
Molecular Clouds in the Carina Arm: The Largest Objects, Associated Regions of Star Formation, and the Carina Arm in the Galaxy. *D. A. Grabelsky, R. S. Cohen, L. Bronfman, & P. Thaddeus.* 331, 181, 108-A10 (1988)

Search for Cold Gas in Clusters with and without Cooling Flows. *D. A. Grabelsky & M. P. Ulmer.* 355, 401, 93-D4 (1990)

GRABOWSKI, B. The Impact of the Pressure Shift of Hydrogen Lines on "Relativistic" Masses of White Dwarfs. *B. Grabowski, J. Madej, & J. Halenka.* 313, 750, 25-A8 (1987)

GRADY, C. A. Highly Ionized Stellar Winds in Be Stars: The Evidence for Aspect Dependence. *C. A. Grady, K. S. Bjorkman, & T. P. Snow.* 320, 376, 112-B8 (1987)

Recurrent Episodic Mass Loss in a B2e Star: 66 Ophiuchi, 1982–1985. *C. A. Grady, George Sonneborn, Chi-Chao Wu, & H. F. Henrichs.* 65, 673, 39-A2 (1987)

Mass Loss in a B2 IIIe Star: ω Orionis 1978–1984. *George Sonneborn, C. A. Grady, Chi-Chao Wu, Daniel P. Hayes, E. F. Guinan, Paul K. Barker, & H. F. Henrichs.* 325, 784, 29-B8 (1988)

Highly Ionized Stellar Winds in Be Stars. II. Winds in B6–B9.5e Stars. *C. A. Grady, K. S. Bjorkman, T. P. Snow, George Sonneborn, Steven N. Shore, & Paul K. Barker.* 339, 403, 55-A8 (1989)

Highly Ionized Species and Circumstellar Shells in B8–A1 Stars. *Frederick C. Bruhweiler, C. A. Grady, & Weihsueh A. Chiu.* 340, 1038, 81-C1 (1989)

GRÄDEL, H. Proton Energy Spectra at the Sun in the Solar Cosmic-Ray Events on 1978 May 7 and 1984 February 16. *J. A. Lockwood, H. Debrunner, E. O. Flückiger, & H. Grädel.* 355, 287, 90-D8 (1990)

GRAEDEL, T. E. Ion-Molecule Chemistry of Dense Interstellar Clouds: Nitrogen-, Oxygen-, and Carbon-bearing Molecule Abundances and Isotopic Ratios. *William D. Langer & T. E. Graedel.* 69, 241, 4-D11 (1989)

GRAF, P. Detection of Silicon in the Galactic Center. *T. Herter, J. R. Houck, P. Graf, & G. E. Gull.* 309, L13, 125-D6 (1986)

Distribution of Si II in the Galactic Center. *P. Graf, T. Herter, G. E. Gull, & J. R. Houck.* 330, 803, 101-D1 (1988)

GRAF, U. U. First Detection of SO_2 and CH_3OH Emission and One Unidentified Line near 800 GHz. *J. Stutzki, R. Genzel, U. U. Graf, A. I. Harris, & D. T. Jaffe.* 340, L37, 75-F5 (1989)

Far-Infrared, Submillimeter, and Millimeter Spectroscopy of the Galactic Center: Radio Arc and +20/+50 Kilometer per Second Clouds. *R. Genzel, G. J. Stacey, A. I. Harris, C. H. Townes, N. Geis, U. U. Graf, A. Poglitsch, & J. Stutzki.* 356, 160, 101-A9 (1990)

Detection of an Isotopic Short Submillimeter CO Line: Column Densities of Warm Gas in Molecular Clouds. *U. U. Graf, R. Genzel, A. I. Harris, R. E. Hills, A. P. G. Russell, & J. Stutzki.* 358, L49, 133-C8 (1990)

GRAFF, M. M. Oxygen Chemistry of Shocked Interstellar Clouds. I. Rate Constants for Thermal and Nonthermal Internal Energy Distributions. *A. F. Wagner & M. M. Graff.* 317, 423, 68-E11 (1987)

Oxygen Chemistry of Shocked Interstellar Clouds. II. Effects of Nonthermal Internal Energy on Chemical Evolution. *M. M. Graff & A. Dalgarno.* 317, 432, 68-F6 (1987)

Oxygen Chemistry of Shocked Interstellar Clouds. III. Sulfur and Oxygen Species in Dense Clouds. *T. M. Leen & M. M. Graff.* 325, 411, 23-F5 (1988)

Fast Neutral Reactions in Cold Interstellar Clouds. *M. M. Graff.* 339, 239, 52-G13 (1989)

GRAFF, S. The Hot Proton-Proton Chains in Low-Metallicity Objects. *M. Wiescher, J. Görres, S. Graff, L. Buchmann, & F.-K. Thielemann.* 343, 352, 122-E1 (1989)

GRAFF, S. M. The Unusual Dust-Scattering Properties in the Reflection Nebula CED 201. *A. N. Witt, R. C. Bohlin, T. P. Stecher, & S. M. Graff.* 321, 912, 134-E1 (1987)

GRAHAM, D. A. Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

GRAHAM, J. Sandqvist 187: A Dense Molecular Cloud in Norma. *H. Alvarez, L. Bronfman, R. Cohen, G. Garay, J. Graham, & P. Thaddeus.* 300, 756, 11-D8 (1986)

GRAHAM, J. A. Objects Associated with Low-Mass Star Formation in the Gum Nebula. *J. A. Graham.* 302, 352, 32-B4 (1986)

Evidence for a Central Massive Component in Late-Type Spirals. *Vera C. Rubin & J. A. Graham.* 316, L67, 62-B12 (1987)

High-Velocity Gas Drizzle into the Disk of NGC 4258. *Vera C. Rubin & J. A. Graham.* 362, L5, 174-A11 (1990)

GRAHAM, J. R. Far-Infrared Spectrophotometry of SN 1987A: Days 265 and 267. *S. H. Moseley, E. Dwek, W. Glaccum, J. R. Graham, R. F. Loewenstein, & R. F. Silverberg.* 347, 1119, 197-E1 (1989)

GRAHAM, JAMES. Infrared Images of the Nucleus of M31. *Jeremy Mould, James Graham, K. Matthews, B. T. Soifer, & E. S. Phinney.* 339, L21, 58-C1 (1989)

GRAHAM, JAMES R. Infrared Spectroscopy of the Supernova Remnant IC 443. *James R. Graham, Gillian S. Wright, & Andrew J. Longmore.* 313, 847, 26-A7 (1987)

The Bolometric Light Curve of a Carbon Deflagration Supernova. *James R. Graham.* 315, 588, 47-B4 (1987)

Deflagrating White Dwarfs and the Statistical Properties of Type I Supernovae. *James R. Graham.* 318, L47, 92-B8 (1987)

IRAS Observations of Collisionally Heated Dust in Large Magellanic Cloud Supernova Remnants. *James R. Graham, A. Evans, J. S. Albinson, M. F. Bode, & W. P. S. Meikle.* 319, 126, 94-D5 (1987)

SN 1984A and S Andromedae: Two Examples of Rare Type Ia Supernovae. *James R. Graham.* 326, L51, 46-B6 (1988)

Line Identifications in the Infrared Spectrum of SN 1987A. *J. H. Elias, B. Gregory, M. M. Phillips, R. E. Williams, James R. Graham, W. P. S. Meikle, R. D. Schwartz, & B. Wilking.* 331, L9, 114-B1 (1988)

The Infrared Light Curves and Colors of SN 1984A. *James R. Graham, W. P. S. Meikle, A. J. Longmore, & P. M. Williams.* 333, 743, 148-D1 (1988)

Radioactive Ionization of the Envelope of SN 1987A. *James R. Graham.* 335, L53, 185-B11 (1988)

The Long-Period Variable Stars of M33. *Jeremy Mould, James R. Graham, Keith Matthews, Gerry Neugebauer, & Jonathan Elias.* 349, 503, 21-E5 (1990)

The Near-Infrared Morphology of Ultraluminous Infrared Galaxies. *David P. Carico, James R. Graham, K. Matthews, T. D. Wilson, B. T. Soifer, G. Neugebauer, & D. B. Sanders.* 349, L39, 24-B1 (1990)

Infrared Spectroscopy and Imaging of the Crab Nebula. *James R. Graham, Gillian S. Wright, & Andrew J. Longmore.* 352, 172, 52-B5 (1990)

A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

The Double Nucleus of Arp 220 Unveiled. *James R. Graham, D. P. Carico, K. Matthews, G. Neugebauer, B. T. Soifer, & T. D. Wilson.* 354, L5, 80-A12 (1990)

The Infrared Excess of G29–38: A Brown Dwarf or Dust? *James R. Graham, K. Matthews, G. Neugebauer, & B. T. Soifer.* 357, 216, 113-F10 (1990)

Does G29–38 Have a Massive Companion? *James R. Graham, James K. McCarthy, I. Neill Reid, & R. Michael Rich.* 357, L21, 115-D2 (1990)

Infrared and Optical Imagery of the Crab Nebula. *J. Jeff Hester, James R. Graham, Charles A. Beichman, & T. N. Gautier III.* 357, 539, 119-C7 (1990)

GRANDI, S. A. The Optical Continua of Magnetic Variables. *Gary D. Schmidt, H. S. Stockman, & S. A. Grandi.* 300, 804, 12-A6 (1986)

GRANEY, CHRISTOPHER M. Optical Coronal Emission Lines from Equilibrium and Cooling Plasmas. *Christopher M. Graney & Craig L. Sarazin.* 364, 561, 203-B3 (1990)

GRAPS, A. Solar Cycle Study of Interplanetrary Lyman-Alpha Variations: *Pioneer Venus* Orbiter Sky Background Results. *J. M. Ajello, A. I. Stewart, G. E. Thomas, & A. Graps.* 317, 964, 76-F5 (1987)

GRAPS, A. L. New Emission Features in the 11–13 Micron Region and Their Relationship to Polycyclic Aromatic Hydrocarbons. *F. C. Witteborn, S. A. Sandford, J. D. Bregman, L. J. Allamandola, M. Cohen, D. H. Wooden, & A. L. Graps.* 341, 270, 87-C5 (1989)

GRASDALEN, G. L. A Neon Nova: Discovery of a Remarkable 12.8 Micron [Ne II] Emission Line in Nova Vulpeculae 1984 Number 2: Erratum. *R. D. Gehrz, G. L. Grasdalen, & J. A. Hackwell.* 306, L49, 86-D6 (1986) (Orig. paper in 298, L47, 125-D9 (1985))

The Neon Nova. II. Condensation of Silicate Grains in the Ejecta of Nova Vulpeculae 1984 Number 2. *R. D. Gehrz, G. L. Grasdalen,*

M. Greenhouse, J. A. Hackwell, T. Hayward, & A. F. Bentley. 308, L63, 120-F12 (1986)

CS Observations of L1551: No Rotating Disk. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, & G. L. Grasdalen.* 317, L95, 78-D13 (1987)

High-Resolution Images of the L1551 Bipolar Outflow: Evidence for an Expanding, Accelerated Shell. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, F. P. Schloerb, K. M. Strom, & G. L. Grasdalen.* 319, 742, 103-B6 (1987)

Near-Infrared Light and the Morphology of Arp 220. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, & R. D. Dietz.* 329, 107, 76-B3 (1988)

PW Vulpeculae: A Dust-poor DQ Herculis? *R. D. Gehrz, T. E. Harrison, E. P. Ney, K. Matthews, G. Neugebauer, J. Elias, G. L. Grasdalen, & J. A. Hackwell.* 329, 894, 86-G6 (1988)

The Infrared Coronal Lines of Recent Novae. *Matthew A. Greenhouse, G. L. Grasdalen, C. E. Woodward, J. Benson, R. D. Gehrz, E. Rosenthal, & M. F. Skrutskie.* 352, 307, 53-F1 (1990)

Starlight Morphology of the Interacting Galaxy NGC 5195. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, R. D. Dietz, & Scott D. Friedman.* 362, 455, 176-B10 (1990)

GRASDALEN, GARY. The Source of Flux for a Red Nebulous Object in NGC 2264. *Michael W. Castelaz & Gary Grasdalen.* 335, 150, 172-A9 (1988)

GRASDALEN, GARY L. An Infrared Reflection Nebula Surrounding SGS 1 in the NGC 1333 Dark Cloud. *Michael W. Castelaz, John A. Hackwell, Gary L. Grasdalen, & Robert D. Gehrz.* 300, 406, 5-D14 (1986)

GSS 30: An Infrared Reflection Nebula in the Ophiuchus Dark Cloud: Erratum. *Michael W. Castelaz, John A. Hackwell, Gary L. Grasdalen, Robert D. Gehrz, & Craig Gullixson.* 301, 502, 19-C9 (1986) (Orig. paper in 290, 261, 26-A1 (1985))

The Internal Structure of the Dust Shell of Eta Carinae Deduced from Six Channel 8–13 Micron Mapping. *John A. Hackwell, Robert D. Gehrz, & Gary L. Grasdalen.* 311, 380, 150-C9 (1986)

Near-Infrared Imaging of Lynds 1551 IRS 5. *Klaus-Werner Hodapp, Richard W. Capps, Stephen E. Strom, Luis Salas, & Gary L. Grasdalen.* 335, 814, 181-E8 (1988)

Circumstellar Gas Associated with HL Tauri: Evidence for a Remnant Infalling Envelope. *Gary L. Grasdalen, Gregory Sloan, Natalie Stout, Stephen E. Strom, & Alan D. Welty.* 339, L37, 58-D5 (1989)

A Study of the Stellar Population in the Lynds 1641 Dark Cloud. I. The *IRAS* Catalog Sources. *Karen M. Strom, Goeffrey Newton, Stephen E. Strom, Robert L. Seaman, Luis Carrasco, Irene Cruz-Gonzalez, Alfonso Serrano, & Gary L. Grasdalen.* 71, 183, 37-C2 (1989)

Infrared Imaging of the Compact H II Region W3A. *Thomas L. Hayward, Gary L. Grasdalen, Charles E. Woodward, John A. Hackwell, Robert D. Gehrz, & Judith L. Pipher.* 345, 894, 161-F1 (1989)

Further Evidence for Differential Rotation in V1057 Cygni. *Alan D. Welty, Stephen E. Strom, Karen M. Strom, Lee W. Hartmann, Scott J. Kenyon, Gary L. Grasdalen, & John R. Stauffer.* 349, 328, 17-G12 (1990)

GRASSI, FRÉDÉRIQUE. The Pulsar in SN 1987A and the Equation of State of Dense Matter. *Frédérique Grassi.* 362, 590, 178-B1 (1990)

GRAUER, A. D. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

GRAUER, ALBERT D. The Detection of Photospheric X-Ray Pulsations from PG 1159–035 with *EXOSAT*. *M. A. Barstow, J. B. Holberg, Albert D. Grauer, & D. E. Winget.* 306, L25, 86-B11 (1986)

PG 0122+200: A New Member of the GW Virginis (PG 1159–035) Class of Extremely Hot Pulsating White Dwarfs. *Howard E. Bond & Albert D. Grauer.* 321, L123, 137-C1 (1987)

A Search for Pulsating Stars Similar to PG 1159–035 and K1-16. *Albert D. Grauer, Howard E. Bond, James Liebert, Thomas A. Fleming, & Richard F. Green.* 323, 271, 156-A10 (1987)

GRAVES, J. Infrared Imaging of Faculae at the Deepest Photospheric Layers. *P. Foukal, R. Little, J. Graves, D. Rabin, & D. Lynch.* 353, 712, 72-F1 (1990)

GRAY, DAVID F. Rotation and Macroturbulence in Bright Giants. *David F. Gray & C. G. Toner.* 310, 277, 135-A13 (1986)

An Analysis of the Photospheric Line Profiles in F, G, and K Supergiants. *David F. Gray & C. G. Toner.* 322, 360, 141-G1 (1987)

The Star Patch on the G8 Dwarf χ Bootis A. *C. G. Toner & David F. Gray.* 334, 1008, 167-F2 (1988)

The Granulation Boundary in the H-R Diagram. *David F. Gray & Thomas Nagel.* 341, 421, 89-A11 (1989)

The Rotational Break for G Giants. *David F. Gray.* 347, 1021, 196-C1 (1989)

GRAY, PETER M. The Dynamics and Structure of Rich Clusters of Galaxies. I. Velocity Data. *Peter F. Teague, David Carter, & Peter M. Gray.* 72, 715, 13-B1 (1990)

GRAY, R. O. The Early A-Type Stars: Refined MK Classification, Confrontation with Strömgren Photometry, and the Effects of Rotation. *R. O. Gray & R. F. Garrison.* 65, 581, 37-C1 (1987)

The Early A-Type Stars: Refined MK Classification, Confrontation with Strömgren Photometry, and the Effects of Rotation: Erratum. *R. O. Gray & R. F. Garrison.* 68, 407, 28-G13 (1988) (Orig. paper in 65, 581, 37-C1 (1987))

The Early F-Type Stars: Refined Classification, Confrontation with Strömgren Photometry, and the Effects of Rotation. *R. O. Gray & R. F. Garrison.* 69, 301, 5-C1 (1989)

The Late A-Type Stars: Refined MK Classification, Confrontation with Strömgren Photometry, and the Effects of Rotation. *R. O. Gray & R. F. Garrison.* 70, 623, 27-B7 (1989)

GRAY, RICHARD O. Theoretical *uvbyβ* Indices. *John B. Lester, Richard O. Gray, & Robert L. Kurucz.* 61, 509, 24-D6 (1986)

GREDEL, R. The C/CO Ratio in Dense Interstellar Clouds. *R. Gredel, S. Lepp, & A. Dalgarno.* 323, L137, 164-D12 (1987)

Cosmic-Ray–induced Photodissociation and Photoionization Rates of Interstellar Molecules. *R. Gredel, S. Lepp, A. Dalgarno, & E. Herbst.* 347, 289, 185-F1 (1989)

GREDEL, ROLAND. Fluorescent Vibration-Rotation Excitation of Cometary C_2. *Roland Gredel, Ewine F. van Dishoeck, & John H. Black.* 338, 1047, 46-F10 (1989)

GREEN, E. M. Population Studies. VI. The Transition from Halo to Thin Disk. *John E. Norris & E. M. Green.* 337, 272, 20-F9 (1989)

Population Studies: The Age Difference between the Globular Clusters NGC 288 and NGC 362. *E. M. Green & John E. Norris.* 353, L17, 67-C1 (1990)

GREEN, G. Impulsive Acceleration and Scatter-free Transport of ~ 1 MeV per Nucleon Ions in ^{3}He-rich Solar Particle Events. *G. M. Mason, C. K. Ng, B. Klecker, & G. Green.* 339, 529, 56-D5 (1989)

GREEN, JAMES. Possible Detection of an Emission Feature near 584 Å in the Direction of G191-B2B. *James Green, Stuart Bowyer, & Patrick Jelinsky.* 353, 612, 71-E1 (1990)

The Extreme Ultraviolet Spectrum of G191-B2B and the Ionization of the Local Interstellar Medium. *James Green, Patrick Jelinsky, & Stuart Bowyer.* 359, 499, 142-C1 (1990)

GREEN, K. D. Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

GREEN, PAUL J. Infrared-selected "Warm" Galaxies Observed in X-Rays. *Paul J. Green, Martin Ward, Scott F. Anderson, Bruce Margon, M. H. K. DeGrijp, & George K. Miley.* 339, 93, 51-B14 (1989)

GREEN, R. F. Continuum Energy Distributions of Quasars in the Palomar-Green Survey. *G. Neugebauer, R. F. Green, K. Matthews, M. Schmidt, B. T. Soifer, & J. Bennett.* 63, 615, 10-A7 (1987)

GREEN, RICHARD. On the Origin of Some QSO Absorption Lines. *Donald G. York, Michael Dopita, Richard Green, & Jill Bechtold.* 311, 610, 154-E2 (1986)

A Compact Planetary Nebula around the Hot White Dwarf EGB 6/PG 0950+139. *James Liebert, Richard Green, Howard E. Bond, J. B. Holberg, F. Wesemael, Thomas A. Fleming, & Kenneth Kidder.* 346, 251, 169-C3 (1989)

Absorption Lines at $z > 2.3$ in Spectra of Quasi-stellar Objects. *Pushpa Khare, Donald G. York, & Richard Green.* 347, 627, 191-A7 (1989)

GREEN, RICHARD F. X-Ray Observations of the Bright Quasar Survey. *H. Tananbaum, Y. Avni, Richard F. Green, Maarten Schmidt, & G. Zamorani.* 305, 57, 67-E7 (1986)

Counts, Evolution, and Background Contribution of X-Ray Quasars and Other Extragalactic X-Ray Sources. *Maarten Schmidt & Richard F. Green.* 305, 68, 67-F4 (1986)

The Palomar-Green Catalog of Ultraviolet-Excess Stellar Objects. *Richard F. Green, Maarten Schmidt, & James Liebert.* 61, 305, 20-G7 (1986)

The Luminosity Function of DA White Dwarfs. *Thomas A. Fleming, James Liebert, & Richard F. Green.* 308, 176, 110-A7 (1986)

The New Magnetic White Dwarf PG 1031+234: Polarization and Field Structure at More than 500 Million Gauss. *Gary D. Schmidt, Steven C. West, James Liebert, Richard F. Green, & H. S. Stockman.* 309, 218, 122-C11 (1986)

Temperatures for Hot and Pulsating DB White Dwarfs Obtained with the *IUE* Observatory. *James Liebert, F. Wesemael, C. J. Hansen, G. Fontaine, Harry L. Shipman, Edward M. Sion, D. E. Winget, & Richard F. Green.* 309, 241, 122-E7 (1986)

X-Ray Spectra of PG Quasars. I. The Continuum from X-Rays to the Infrared. *Martin Elvis, Richard F. Green, Jill Bechtold, Maarten Schmidt, G. Neugebauer, B. T. Soifer, K. Matthews, & G. Fabbiano.* 310, 291, 135-B13 (1986)

Surveys of Fields around Quasars. III. Intermediate-Redshift Quasars: Catalog and Background Galaxy Counts. *H. K. C. Yee, Richard F. Green, & H. S. Stockman.* 62, 681, 40-A13 (1986)

High-Resolution Spectroscopy of the $z = 1.79$ Absorption-Line System toward B2 1225+317. *Jill Bechtold, Richard F. Green, & D. G. York.* 312, 50, 1-E5 (1987)

X-Ray Spectra of PG Quasars. II. The X-Ray–Ultraviolet Excess of PG 1211+143. *Jill Bechtold, Bozena Czerny, Martin Elvis, G. Fabbiano, & Richard F. Green.* 314, 699, 37-C5 (1987)

The DBA White Dwarf Stars in the Palomar-Green Sample. *Harry L. Shipman, James Liebert, & Richard F. Green.* 315, 239, 42-E8 (1987)

BE Ursae Majoris: A Detached Binary with a Unique Reprocessing Spectrum. *Donald H. Ferguson, James Liebert, Roc Cutri, Richard F. Green, S. P. Willner, João E. Steiner, & Susan Tokarz.* 316, 399, 54-D4 (1987)

Surveys of Fields around Quasars. IV. Luminosity of Galaxies at $z \cong 0.6$ and Preliminary Evidence for the Evolution of the Environment of Radio-loud Quasars. *H. K. C. Yee & Richard F. Green.* 319, 28, 93-C12 (1987)

The Rotationally Modulated Zeeman Spectrum at Nearly 10^9 Gauss of the White Dwarf PG 1031+234. *William B. Latter, Gary D. Schmidt, & Richard F. Green.* 320, 308, 111-D9 (1987)

PG 1411+442: The Nearest Broad Absorption Line Quasar. *Matthew A. Malkan, Richard F. Green, & John B. Hutchings.* 322, 729, 147-G6 (1987)

A Search for Pulsating Stars Similar to PG 1159–035 and K1-16. *Albert D. Grauer, Howard E. Bond, James Liebert, Thomas A. Fleming, & Richard F. Green.* 323, 271, 156-A10 (1987)

Weak Bump Quasars. *Jonathan C. McDowell, Martin Elvis, Belinda J. Wilkes, Steven P. Willner, M. S. Oey, Elisha Polomski, Jill Bechtold, & Richard F. Green.* 345, L13, 157-B5 (1989)

IUE Observations of PG 1115+080: The He I Gunn-Peterson Test and a Search for the Lensing Galaxy. *Todd M. Tripp, Richard F. Green, & Jill Bechtold.* 364, L29, 205-C7 (1990)

GREEN, S. Collisional Excitation of Interstellar Water: Addendum. *A. Palma, S. Green, D. J. DeFrees, & A. D. McLean.* 70, 681, 28-A9 (1989) (Orig. paper in 68, 287, 27-C7 (1988))

GREEN, SHELDON. Collisional Excitation of Interstellar Methyl Cyanide. *Sheldon Green.* 309, 331, 123-E4 (1986)

Collisional Excitation of an Asymmetric Rotor, Silicon Dicarbide. *Amedeo Palma & Sheldon Green.* 316, 830, 61-B9 (1987)

Collisional Excitation of Interstellar Cyclopropenylidene. *Sheldon Green, D. J. DeFrees, & A. D. McLean.* 65, 175, 29-F11 (1987)

Collisional Excitation of Interstellar Waters. *Amedeo Palma, Sheldon Green, D. J. DeFrees, & A. D. McLean.* 68, 287, 27-C7 (1988)

Collisional Rate Coefficients of C_3H_2 and the Determination of Physical Conditions in Molecular Clouds. *L. W. Avery & Sheldon Green.* 337, 306, 21-B8 (1989)

Collisional Excitation of Interstellar Molecules: Deuterated Water, HDO. *Sheldon Green.* 70, 813, 31-A1 (1989)

GREENBERG, J. M. Shapes and Correlations as Observational Discriminants for the Origin of Diffuse Bands. *G. Chlewicki, G. P. van der Zwet, L. J. van Ijzendoorn, & J. M. Greenberg.* 305, 455, 72-B5 (1986)

GREENBERG, J. MAYO. Ions in Grain Mantles: The 4.62 Micron Absorption by OCN^- in W33A. *Ruud J. A. Grim & J. Mayo Greenberg.* 321, L91, 130-A11 (1987)

The Temperature Dependence of the CO Infrared Band Strength in CO: H_2O Ices. *B. Schmitt, J. Mayo Greenberg, & R. J. A. Grim.* 340, L33, 75-F1 (1989)

Ions in Grain Mantles: A New Explanation for the 6.86 Micron Absorption in W33A. *Ruud Grim, J. Mayo Greenberg, Willem Schutte, & Bernard Schmitt.* 341, L87, 100-B6 (1989)

A Model for the Optical Properties of Porous Grains. *J. I. Hage & J. Mayo Greenberg.* 361, 251, 160-A11 (1990)

From Interstellar Dust to Comets: A Unification of Observational Constraints. *J. Mayo Greenberg & J. I. Hage.* 361, 260, 160-B7 (1990)

Interstellar Circular Polarization and the Dielectric Nature of Dust Grains. *Grzegorz Chlewicki & J. Mayo Greenberg.* 365, 230, 209-A9 (1990)

GREENE, B. The Large Scattering Disk of NGC 6334B. *J. M. Moran, L. F. Rodríguez, B. Greene, & D. C. Backer.* 348, 147, 2-G4 (1990)

GREENE, THOMAS P. *IRAS* Observations of Dust Heating and Energy Balance in the Rho Ophiuchi Dark Cloud. *Thomas P. Greene & Erick T. Young.* 339, 258, 52-B12 (1989)

A Spectacular Molecular Outflow in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, Tetsuo Hasegawa, Saeko S. Hayashi, Masahiko Hayashi, Norio Kaifu, Ian Gatley, Thomas P. Greene, & Erick T. Young.* 352, 615, 58-F1 (1990)

GREENHILL, L. J. VLBI and Polarimetric Observations of the SiO Masers in R Cassiopeiae. *G. C. McIntosh, C. R. Predmore, J. M. Moran, L. J. Greenhill, A. E. E. Rogers, & R. Barvainis.* 337, 934, 30-D9 (1989)

First Images of Water Vapor Masers in the Galaxy M33. *L. J. Greenhill, J. M. Moran, M. J. Reid, C. R. Gwinn, K. M. Menten, A. Eckart, & H. Hirabayashi.* 364, 513, 202-E1 (1990)

GREENHOUSE, M. The Neon Nova. II. Condensation of Silicate Grains in the Ejecta of Nova Vulpeculae 1984 Number 2. *R. D. Gehrz, G. L. Grasdalen, M. Greenhouse, J. A. Hackwell, T. Hayward, & A. F. Bentley.* 308, L63, 120-F12 (1986)

GREENHOUSE, MATTHEW. The Magellanic Irregular Galaxy NGC 4214: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, Matthew Greenhouse, & D. A. Harper.* 334, 605, 162-A10 (1988)

Near-Infrared Images of NGC 1068: Bar-driven Star Formation and the Circumnuclear Composition. *Harley A. Thronson, Jr., Mark Hereld, Steven Majewski, Matthew Greenhouse, Paul Johnson, Earl Spillar, C. E. Woodward, D. A. Harper, & Bernard J. Rauscher.* 343, 158, 120-B3 (1989)

GREENHOUSE, MATTHEW A. H_2 and H I Emission-Line Imaging of the Ring Nebula (NGC 6720). *Matthew A. Greenhouse, Thomas L. Hayward, & Harley A. Thronson, Jr.* 325, 604, 27-B9 (1988)

Near-Infrared Mass-to-Light Ratios in Galaxies: Stellar Mass and Star Formation in the Heart of the Whirlpool. *Harley A. Thronson, Jr., & Matthew A. Greenhouse.* 327, 671, 56-A8 (1988)

H_2 and H I Emission-Line Imaging of the Ring Nebula (NGC 6720): Erratum. *Matthew A. Greenhouse, Thomas L. Hayward, & Harley A. Thronson, Jr.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 604, 27-B9 (1988))

Molecular Gas, the Interstellar Medium, and Star Formation in S0 and Sa Galaxies. *Harley A. Thronson, Jr., Linda Tacconi, Jeffrey Kenney, Matthew A. Greenhouse, Michael Margulis, Lowell Tacconi-Garman, & Judith S. Young.* 344, 747, 143-E10 (1989)

The Infrared Coronal Lines of Recent Novae. *Matthew A. Greenhouse, G. L. Grasdalen, C. E. Woodward, J. Benson, R. D. Gehrz, E. Rosenthal, & M. F. Skrutskie.* 352, 307, 53-F1 (1990)

GREENSTEIN, JESSE L. On the Nature of the Dwarf Carbon Star G77-61. *D. S. P. Dearborn, James Liebert, Marc Aaronson, Conard C. Dahn, Robert Harrington, Jeremy Mould, & Jesse L. Greenstein.* 300, 314, 4-E1 (1986)

The Frequency of Hydrogen White Dwarfs as Observed at High Signal to Noise. *Jesse L. Greenstein.* 304, 334, 57-E7 (1986)

BD −3°2525: A Spectroscopic Binary Subdwarf. *Jesse L. Greenstein & A. Saha.* 304, 721, 64-A1 (1986)

Spectrophotometry of White Dwarfs as Observed at High Signal-to-Noise Ratio. II. *Jesse L. Greenstein & James Liebert.* 360, 662, 154-D1 (1990)

Three Unresolved Double Degenerate Binaries. *P. Bergeron, Jesse L. Greenstein, & James Liebert.* 361, 190, 159-C11 (1990)

GREGG, MICHAEL D. The Stellar Population of NGC 6166. *Francesco Bertola, Michael D. Gregg, James E. Gunn, & Augustus Oemler, Jr.* 303, 624, 49-C12 (1986)

Differential Population Synthesis of S0 Galaxies. II. Methods and Results. *Michael D. Gregg.* 337, 45, 17-E7 (1989)

Differential Population Synthesis of S0 Galaxies. I. The Data. *Michael D. Gregg.* 69, 217, 4-B1 (1989)

The Mean Ages of S0 Disks: Evidence for Star Formation 5 Gigayears Ago. *Gregory D. Bothun & Michael D. Gregg.* 350, 73, 25-G7 (1990)

GREGGIO, L. DDO 210: The Actual Appearance of a "Ghost" Irregular Galaxy. *G. Marconi, P. Focardi, L. Greggio, & M. Tosi.* 360, L39, 156-C1 (1990)

GREGGIO, LAURA. The Development of the Red Giant Branch. I. Theoretical Evolutionary Sequences. *Allen V. Sweigart, Laura Greggio, & Alvio Renzini.* 69, 911, 15-A1 (1989)

Clues on the Hot Star Content and the Ultraviolet Output of Elliptical Galaxies. *Laura Greggio & Alvio Renzini.* 364, 35, 194-D12 (1990)

The Development of the Red Giant Branch. II. Astrophysical Properties. *Allen V. Sweigart, Laura Greggio, & Alvio Renzini.* 364, 527, 202-F3 (1990)

Double Degenerates among DA White Dwarfs. *Angela Bragaglia, Laura Greggio, Alvio Renzini, & Sandro D'Odorico.* 365, L13, 212-B7 (1990)

GREGORY, B. Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

Line Identifications in the Infrared Spectrum of SN 1987A. *J. H. Elias, B. Gregory, M. M. Phillips, R. E. Williams, James R. Graham, W. P. S. Meikle, R. D. Schwartz, & B. Wilking.* 331, L9, 114-B1 (1988)

GREGORY, BROOKE. Infrared Photometry and Spectroscopy of Supernova 1986g in NGC 5128–Centaurus A. *Jay A. Frogel, Brooke Gregory, Kimiaki Kawara, Dave Laney, M. M. Phillips, Don Terndrup, Frederick Vrba, & Albert E. Whitford.* 315, L129, 49-E11 (1987)

Two Micron Spectroscopy of IRAS Galaxies. *Kimiaki Kawara, Minoru Nishida, & Brooke Gregory.* 321, L35, 129-D12 (1987)

H_2 2.122 Micron Emission in NGC 3783 with a Bare Type 1 Seyfert Nucleus. *Kimiaki Kawara, Minoru Nishida, & Brooke Gregory.* 342, L55, 117-B10 (1989)

H_2 Emission from Type 1 Seyferts and Quasars: Molecular Tori around Bare Nuclei. *Kimiaki Kawara, Minoru Nishida, & Brooke Gregory.* 352, 433, 56-E1 (1990)

GREGORY, J. C. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

GREGORY, P. C. Four Year Modulation of Periodic Radio Outbursts from LSI +61°303. *P. C. Gregory, Huang-Jian Xu, C. J. Backhouse, & A. Reid.* 339, 1054, 64-F5 (1989)

GREGORY, STEPHEN A. The A2197 and A2199 Galaxy Clusters: Erratum. *Stephen A. Gregory & Laird A. Thompson.* 305, 580, 73-E8 (1986) (Orig. paper in 286, 422, 127-F4 (1984))

Observational Constraints on Bending the Wide-Angle Tailed Radio Galaxy 1919+479. *Jack O. Burns, Christopher P. O'Dea, Stephen A. Gregory, & Thomas J. Balonek.* 307, 73, 95-F9 (1986)

A Spectroscopic Survey of Case Emission-Line Galaxies in the Direction of the Bootes Void. *William G. Tifft, Robert P. Kirshner, Stephen A. Gregory, & J. Ward Moody.* 310, 75, 132-G10 (1986)

Emission-Line Galaxies in the Bootes Void. *J. Ward Moody, Robert P. Kirshner, Gordon M. MacAlpine, & Stephen A. Gregory.* 314, L33, 39-A13 (1987)

GREISEN, ERIC W. Small-Scale Structure of Interstellar H I Clouds. *Eric W. Greisen & Harvey S. Liszt.* 303, 702, 50-B12 (1986)

GRENIER, I. A. A Composite CO Survey of the Entire Milky Way. *T. M. Dame, H. Ungerechts, R. S. Cohen, E. J. de Geus, I. A. Grenier, J. May, D. C. Murphy, L.-Å. Nyman, & P. Thaddeus.* 322, 706, 147-D13 (1987)

CO Observations of the Cepheus Flare. I. Molecular Clouds Associated with a Nearby Bubble. *I. A. Grenier, F. Lebrun, M. Arnaud, T. M. Dame, & P. Thaddeus.* 347, 231, 185-A1 (1989)

CO Observations of the Cepheus Flare. II. Gamma Rays from the Interstellar Gas and a Possible New *COS B* Source. *I. A. Grenier & F. Lebrun.* 360, 129, 146-F1 (1990)

GRESH, DONNA L. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

GREWING, M. Abundances in Intermediate-Velocity Clouds toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 332, L75, 137-D5 (1988)

An Ultraviolet Spectral Atlas of Interstellar Lines toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 334, 308, 157-G1 (1988)

GREWING, MICHAEL. Far-Ultraviolet and Optical Spectrophotometry of X-Ray Selected Seyfert Galaxies. *John T. Clarke, Stuart Bowyer, & Michael Grewing.* 305, 167, 68-F12 (1986)

GRIESINGER, H. E. Absolute Oscillator Strengths for 108 Lines of Si I between 163 and 410 Nanometers. *Peter L. Smith, M. C. E. Huber, G. P. Tozzi, H. E. Griesinger, B. L. Cardon, & G. G. Lombardi.* 322, 573, 144-B12 (1987)

GRIEVE, G. R. Photometric Studies of Magellanic Cloud Supergiants. I. Mean Magnitudes and Reddenings. *G. R. Grieve & Barry F. Madore.* 62, 427, 37-A5 (1986)

Photometric Studies of Magellanic Cloud Supergiants. II. Variability. *G. R. Grieve & Barry F. Madore.* 62, 451, 37-C1 (1986)

Interdependence of the 4430 Å Diffuse Interstellar Band, Polarization, and Ultraviolet Extinction. *J. Krełowski, G. A. H. Walker, G. R. Grieve, & G. M. Hill.* 316, 449, 55-A3 (1987)

Photometric Studies of Magellanic Cloud Supergiants. II. Variability: Addendum. *G. R. Grieve & Barry F. Madore.* 67, 503, 19-B9 (1988) (Orig. paper in 62, 451, 37-C1 (1986))

GRIEVE, P. R. Simulation of Cosmic Dust Spectra. *J. H. Hecht, R. W. Russell, J. R. Stephens, & P. R. Grieve.* 309, 90, 121-A7 (1986)

GRIFFIN, M. J. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)

Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)

GRIFFIN, R. F. On the Reality of Certain Spectroscopic Orbits. *C. L. Morbey & R. F. Griffin.* 317, 343, 67-F1 (1987)

GRIFFITH, CAITLIN A. Erosion of Circumstellar Particle Disks by Interstellar Dust. *Jack J. Lissauer & Caitlin A. Griffith.* 340, 468, 73-B1 (1989)

GRIFFITH, M. The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 325, 1, 19-A7 (1988)

The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz: Erratum. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 1, 19-A7 (1988))

GRIFFITH, MARK. The Third MIT–Green Bank 5 GHz Survey. *Mark Griffith, Glen Langston, Mike Heflin, Sam Conner, Joseph Lehár, & Bernard Burke.* 74, 129, 31-E9 (1990)

GRIFFITHS, R. E. Star-forming Galaxies and the X-Ray Background. *R. E. Griffiths & P. Padovani.* 360, 483, 152-C11 (1990)

GRILLMAIR, CARL J. More Low-Redshift Broad Absorption Line QSOs. *David A. Turnshek & Carl J. Grillmair.* 310, L1, 138-A4 (1986)

The Ultraviolet Calibration of the Hubble Space Telescope. II. A Correction for the Change in Sensitivity of the SWP Camera on the *IUE*. *Ralph C. Bohlin & Carl J. Grillmair.* 66, 209, 4-D1 (1988)

QSOs with PHL 5200–like Broad Absorption Line Profiles. *David A. Turnshek, Craig B. Foltz, Carl J. Grillmair, & Ray J. Weymann.* 325, 651, 27-F4 (1988)

The Ultraviolet Calibration of the Hubble Space Telescope. III. A Correction for the Change in Sensitivity of the LWR Camera on *IUE*. *Ralph C. Bohlin & Carl J. Grillmair.* 68, 487, 30-B1 (1988)

GRIM, R. J. A. The Temperature Dependence of the CO Infrared Band Strength in CO: H_2O Ices. *B. Schmitt, J. Mayo Greenberg, & R. J. A. Grim.* 340, L33, 75-F1 (1989)

GRIM, RUUD. Ions in Grain Mantles: A New Explanation for the 6.86 Micron Absorption in W33A. *Ruud Grim, J. Mayo Greenberg, Willem Schutte, & Bernard Schmitt.* 341, L87, 100-B6 (1989)

GRIM, RUUD J. A. Ions in Grain Mantles: The 4.62 Micron Absorption by OCN^- in W33A. *Ruud J. A. Grim & J. Mayo Greenberg.* 321, L91, 130-A11 (1987)

GRINDLAY, J. E. Spectral Variability of Cygnus X-2: Structure in the Circumsource Material. *S. D. Vrtilek, S. M. Kahn, J. E. Grindlay, D. J. Helfand, & F. D. Seward.* 307, 698, 104-E9 (1986)

Observations of Quasi-periodic Oscillations from GX 5−1 and Cygnus X-2 with the *Einstein* (*HEAO 2*) Observatory. *R. F. Elsner, M. C. Weisskopf, W. Darbro, B. D. Ramsey, A. C. Williams, P. G. Sutherland, & J. E. Grindlay.* 308, 655, 116-B7 (1986)

Persistent Emission and Bursts from Aquila X-1 Observed by *Einstein*. *M. Czerny, B. Czerny, & J. E. Grindlay.* 312, 122, 2-C13 (1987)

A Search for Millisecond Periodic and Quasi-periodic Pulsations in Low-Mass X-Ray Binaries. *S. Mereghetti & J. E. Grindlay.* 312, 727, 10-G6 (1987)

Simultaneous X-Ray and Radio Observations of GX 13+1. *M. R. Garcia, J. E. Grindlay, L. A. Molnar, L. Stella, N. E. White, & E. R. Seaquist.* 328, 552, 69-B12 (1988)

VLBI Observations of Expansion in Cygnus X-3. *L. A. Molnar, M. J. Reid, & J. E. Grindlay.* 331, 494, 111-G4 (1988)

Discovery of a Possible X-Ray Triple: 4U 1915−05. *J. E. Grindlay, C. D. Bailyn, H. Cohn, P. M. Lugger, J. R. Thorstensen, & G. Wegner.* 334, L25, 161-C9 (1988)

Four X-Ray–selected Cataclysmic Variables in the Galactic Plane. *P. Hertz, C. D. Bailyn, J. E. Grindlay, M. R. Garcia, H. Cohn, & P. M. Lugger.* 364, 251, 197-B8 (1990)

GRINDLAY, JONATHAN E. The Synchrotron–Self-Compton Process in Spherical Geometries. II. Application to Active Galactic Nuclei. *David L. Band & Jonathan E. Grindlay.* 308, 576, 115-C6 (1986)

Radio Observations of Galactic Bulge and Globular Cluster X-Ray Sources. *Jonathan E. Grindlay & Ernest R. Seaquist.* 310, 172, 133-G13 (1986)

Theoretical Spectra of Nonmagnetized Low-Mass X-Ray Binaries. *Bozena Czerny, Michal Czerny, & Jonathan E. Grindlay.* 311, 241, 148-F2 (1986)

Synchrotron and Inverse Compton Emission from Expanding Sources in Jets: Application to SS 433. *David L. Band & Jonathan E. Grindlay.* 311, 595, 154-D1 (1986)

Compact X-Ray Binaries in Hierarchical Triples. I. Tidal Angular Momentum Loss and GX 17+2. *Charles D. Bailyn & Jonathan E. Grindlay.* 312, 748, 11-B4 (1987)

Discovery of an X-Ray Burst from 4U 2129+47. *Michael R. Garcia & Jonathan E. Grindlay.* 313, L59, 27-C1 (1987)

On the Evolution of Tidal Capture X-Ray Binaries: 4U 2127+12 (M15) to 4U 1820−30 (NGC 6624). *Charles D. Bailyn & Jonathan E. Grindlay.* 316, L25, 56-C3 (1987)

CCD Photometry of Globular Cluster Core Structure. I. NGC 6388, NGC 6624, and M15—One Flat Core and Two Cusps. *Phyllis M. Lugger, Haldan Cohn, Jonathan E. Grindlay, Charles D. Bailyn, & Paul Hertz.* 320, 482, 114-F8 (1987)

Color Maps of X-Ray Globular Clusters. *Charles D. Bailyn, Jonathan E. Grindlay, Haldan Cohn, & Phyllis M. Lugger.* 331, 303, 109-D10 (1988)

Is 4U 2129+47 (= V1727 Cygni) a Triple System? *Michael R. Garcia, Charles D. Bailyn, Jonathan E. Grindlay, & Lawrence A. Molnar.* 341, L75, 100-A5 (1989)

Outflow from the Outer Lagrangian Point: Observations and Models of 4U 2127+12 in M15. *Charles D. Bailyn, Michael R. Garcia, & Jonathan E. Grindlay.* 344, 786, 144-A10 (1989)

Neutron Stars and Millisecond Pulsars from Accretion-induced Collapse in Globular Clusters. *Charles D. Bailyn & Jonathan E. Grindlay.* 353, 159, 64-B5 (1990)

Does Tidal Capture Produce Cataclysmic Variables? *Charles D. Bailyn, Jonathan E. Grindlay, & Michael R. Garcia.* 357, L35, 121-C7 (1990)

GRINSTEIN, B. Coupling of Modes of Cosmological Mass Density Fluctuations. *M. H. Goroff, B. Grinstein, S.-J. Rey, & M. B. Wise.* 311, 6, 146-A12 (1986)

Interpretation of Large-Scale Deviations from the Hubble Flow. *B. Grinstein, H. David Politzer, S.-J. Rey, & Mark B. Wise.* 314, 431, 34-C1 (1987)

GRINSTEIN, BENJAMIN. Non-Gaussian Fluctuations and the Correlations of Galaxies or Rich Clusters of Galaxies. *Benjamin Grinstein & Mark B. Wise.* 310, 19, 132-C1 (1986)

On the Validity of the Zel'dovich Approximation. *Benjamin Grinstein & Mark B. Wise.* 320, 448, 114-C11 (1987)

On the Validity of the Zel'dovich Approximation: Erratum. *Benjamin Grinstein & Mark B. Wise.* 337, 579, 24-F5 (1989) (Orig. paper in 320, 448, 114-C11 (1987))

GROEBNER, ANDREW T. The Long-Period Field RR Lyrae Stars. *Edward G. Schmidt, Charles G. Loomis, Andrew T. Groebner, & Chris T. Potter.* 360, 604, 153-F7 (1990)

GRONENSCHILD, E. H. B. M. The High-Resolution Soft X-Ray Spectrum of HZ 43. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, E. H. B. M. Gronenschild, & J. Heise.* 308, 190, 110-B6 (1986)

GRONWALL, CARYL. The Kitt Peak Spectrophotometric Standards: Extension to 1 Micron. *Philip Massey & Caryl Gronwall.* 358, 344, 126-C12 (1990)

GROSSAN, B. The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 325, 1, 19-A7 (1988)

The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz: Erratum. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 1, 19-A7 (1988))

GROSSMAN, E. N. A Possible Protostar near HH 7–11. *E. N. Grossman, C. R. Masson, A. I. Sargent, N. Z. Scoville, S. Scott, & D. P. Woody.* 320, 356, 112-A1 (1987)

GROSSMAN, SCOTT A. Arcs from Gravitational Lensing. *Scott A. Grossman & Ramesh Narayan.* 324, L37, 18-A9 (1988)

Gravitationally Lensed Images in Abell 370. *Scott A. Grossman & Ramesh Narayan.* 344, 637, 142-D2 (1989)

GROSSMANN, WILLIAM. Heating of Solar Coronal Loops by Resonant Absorption of Alfvén Waves. *William Grossmann & Robert A. Smith.* 332, 476, 128-C11 (1988)

GROTH, EDWARD J. The Shane-Wirtanen Counts: Plate Correction Factors and Correlation Functions. *Edward J. Groth & P. J. E. Peebles.* 310, 499, 139-C1 (1986)

The Shane-Wirtanen Counts: Observer and Time-dependent Effects. *Edward J. Groth & P. J. E. Peebles.* 310, 507, 139-C9 (1986)

The Shane-Wirtanen Counts: Observability of the Galaxy Correlation Function. *Michael E. Brown & Edward J. Groth.* 338, 605, 41-E1 (1989)

An Estimate of the Velocity Correlation Tensor: Cosmological Implications. *Edward J. Groth, Roman Juszkiewicz, & Jeremiah P. Ostriker.* 346, 558, 174-D6 (1989)

GROTH, H. G. Evolutionary versus Dynamical Time Scales for the Evolution of the Central Stars of Planetary Nebulae. *J. K. McCarthy, J. R. Mould, R. H. Mendez, R. P. Kudritzki, D. Husfeld, A. Herrero, & H. G. Groth.* 351, 230, 40-G10 (1990)

GROTZ, K. Evidence for a Nonvanishing Energy Density of the Vacuum (or Cosmological Constant). *H. V. Klapdor & K. Grotz.* 301, L39, 27-B1 (1986)

GROVE, KJIRSTEN. The "WN+WC" Wolf-Rayet Stars MR 111 and GP Cep: Spectrum Binaries or Missing Links? *Philip Massey & Kjirsten Grove.* 344, 870, 145-A10 (1989)

GRUBER, D. E. *HEAO 1* Hard X-Ray Observations of Three Abell Clusters of Galaxies. *Y. Rephaeli, D. E. Gruber, & R. E. Rothschild.* 320, 139, 109-E5 (1987)

The Very Low Frequency Power Spectrum of Centaurus X-3. *D. E. Gruber.* 328, 265, 64-G11 (1988)

HEAO 1 Hard X-Ray Observations of Clusters of Galaxies and Intracluster Magnetic Fields. *Yoel Rephaeli & D. E. Gruber.* 333, 133, 139-D4 (1988)

Upper Limits from Hard X-Ray Observations of Five BL Lacertae Objects. *M. Bezler, D. E. Gruber, & R. E. Rothschild.* 334, 995, 167-E1 (1988)

Temporal Behavior of Hercules X-1: The Long-Term Variability of Its Pulse Profile and the 35 Day X-Ray Intensity Modulation. *Y. Soong, D. E. Gruber, L. E. Peterson, & R. E. Rothschild.* 348, 634, 10-E3 (1990)

Spectral Behavior of Hercules X-1: Its Long-Term Variability and Pulse Phase Spectroscopy. *Y. Soong, D. E. Gruber, L. E. Peterson, & R. E. Rothschild.* 348, 641, 10-E11 (1990)

GRUBER, DUANE E. A Rapid Change of the Hercules X-1 Pulse Profile and High-State Duration. *Yang Soong, Duane E. Gruber, & Richard E. Rothschild.* 319, L77, 107-E3 (1987)

GRUENWALD, R. B. Integrated Models for the Narrow Emission-Line Region of Active Galactic Nuclei. *S. M. Viegas-Aldrovandi & R. B. Gruenwald.* 324, 683, 10-G3 (1988)

The LINERs Revisited. *S. M. Viegas-Aldrovandi & R. B. Gruenwald.* 360, 474, 152-C1 (1990)

GRUNSFELD, JOHN M. Energy Spectra of Cosmic-Ray Nuclei from 50 to 2000 GeV per AMU. *John M. Grunsfeld, Jacques L'Heureux, Peter Meyer, Dietrich Müller, & Simon P. Swordy.* 327, L31, 53-C9 (1988)

Relative Abundances of Secondary and Primary Cosmic Rays at High Energies. *Simon P. Swordy, Dietrich Müller, Peter Meyer, Jacques L'Heureux, & John M. Grunsfeld.* 349, 625, 23-A9 (1990)

A 153 Day Periodicity in the Occurrence of Solar Flares Producing Energetic Interplanetary Electrons. *Wolfgang Dröge, Kenneth Gibbs, John M. Grunsfeld, Peter Meyer, Brian J. Newport, Paul Evenson, & Dan Moses.* 73, 279, 21-E7 (1990)

GRY, C. *IUE* Observations of Hydrogen and Deuterium in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, W. B. Landsman, J. L. Linsky, A. Vidal-Madjar, & C. Gry.* 315, 675, 48-A10 (1987)

IUE Observations of the Interstellar Medium toward β Geminorum. *J. Murthy, J. B. Wofford, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 336, 949, 14-C6 (1989)

Studies of H I and D I in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 356, 223, 101-G5 (1990)

The Ultraviolet Calibration of the *Hubble Space Telescope*. IV. Absolute *IUE* Fluxes of *Hubble Space Telescope* Standard Stars. *R. C. Bohlin, A. W. Harris, A. V. Holm, & C. Gry.* 73, 413, 24-B1 (1990)

GUARINI, G. On the Dipole and Quadrupole Kinematic Anisotropy in the Brightness of the Cosmic Background Radiation. *P. de Bernardis, M. Epifani, G. Guarini, S. Masi, F. Melchiorri, & B. Melchiorri.* 353, 145, 64-A1 (1990)

A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)

GUDEHUS, DONALD H. A Search for Diffuse Light in a Richness 4 Cluster of Galaxies. *Donald H. Gudehus.* 340, 661, 76-F1 (1989)

On the Deviation from Uniform Expansion of the Universe. *Donald H. Gudehus.* 342, 617, 110-C1 (1989)

GUDMUNDSSON, E. H. Surface Structure of Neutron Stars with High Magnetic Fields. *I. Fushiki, E. H. Gudmundsson, & C. J. Pethick.* 342, 958, 114-B8 (1989)

GUÉLIN, M. Laboratory Microwave Spectroscopy of the Vibrational Satellites for the ν_7 and $2\nu_7$ States of C_4H and Their Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, M. Guélin, J. Cernicharo, Hiroko Suzuki, & Masatoshi Ohishi.* 323, L149, 164-E8 (1987)

Astronomical and Laboratory Detection of the SiC Radical. *J. Cernicharo, C. A. Gottlieb, M. Guélin, P. Thaddeus, & J. M. Vrtilek.* 341, L25, 91-C4 (1989)

Phosphorus in the Dense Interstellar Medium. *B. E. Turner, T. Tsuji, J. Bally, M. Guélin, & J. Cernicharo.* 365, 569, 215-C9 (1990)

GUENTHER, D. B. The Case of α Centauri: Mass, Age, and p-Mode Oscillation Spectrum. *Pierre Demarque, D. B. Guenther, & William F. van Altena.* 300, 773, 11-F3 (1986)

The Stellar Seismology of ϵ Eridani. *D. B. Guenther & Pierre Demarque.* 301, 207, 16-C1 (1986)

A Discussion of Epsilon Eridani's Age, Composition, and Oscillation Spectrum. *D. B. Guenther.* 312, 211, 3-C4 (1987)

Insensitivity of Solar p-Mode Frequencies to Changes in the Helium Abundance. *D. B. Guenther & Ataollah Sarajedini.* 327, 993, 59-F9 (1988)

Age of the Sun. *D. B. Guenther.* 339, 1156, 65-G7 (1989)

The Standard Solar Model: Composition, Opacities, and Seismology. *D. B. Guenther, A. Jaffe, & P. Demarque.* 345, 1022, 163-C3 (1989)

GUERRA, DAVID V. Stellar Orbits in Angle Variables. II. Two-dimensional Orbits in a Rotating Potential. *David V. Guerra & Stephen J. Ratcliff.* 348, 127, 2-E9 (1990)

GUESSOUM, NIDHAL. Thermonuclear Breakup Reactions of Light Nuclei. I. Processes and Effects. *Nidhal Guessoum & Robert J. Gould.* 345, 356, 153-E5 (1989)

Thermonuclear Breakup Reactions of Light Nuclei. II. Gamma-Ray Line Production and Other Applications. *Nidhal Guessoum.* 345, 363, 153-F1 (1989)

Neutron Viscosity in Accretion Disks. *Nidhal Guessoum & Demosthenes Kazanas.* 358, 525, 130-B1 (1990)

The Cross Section for $p + p \rightarrow d + e^+ + \nu_e$. *Robert J. Gould & Nidhal Guessoum.* 359, L67, 144-D5 (1990)

Stochastic Fermi Acceleration in Solar Flares. *James A. Miller, Nidhal Guessoum, & Reuven Ramaty.* 361, 701, 166-G1 (1990)

GÜSTEN, R. Aperture Synthesis Observations of the Circumnuclear Ring in the Galactic Center. *R. Güsten, R. Genzel, M. C. H. Wright, D. T. Jaffe, J. Stutzki, & A. I. Harris.* 318, 124, 80-C8 (1987)

VLBI Observations of the Water Vapor Maser in the Nucleus of NGC 3079. *A. D. Haschick, W. A. Baan, M. H. Schneps, M. J. Reid, J. M. Moran, & R. Güsten.* 356, 149, 100-G9 (1990)

High Spatial Resolution Isotopic CO and CS Observations of M17 SW: The Clumpy Structure of the Molecular Cloud Core. *J. Stutzki & R. Güsten.* 356, 513, 106-F1 (1990)

A Highly Collimated Outflow in the Core of OMC-1. *J. Schmid-Burgk, R. Güsten, R. Mauersberger, A. Schulz, & T. L. Wilson.* 362, L25, 174-C11 (1990)

GÜSTEN, ROLF. Formaldehyde Absorption and Maser Emission in Galaxies. *Willem A. Baan, Rolf Güsten, & Aubrey D. Haschick.* 305, 830, 78-A8 (1986)

High-Density Molecular Gas in External Galaxies: Formaldehyde and Carbon Monosulfide. *Willem A. Baan, Christian Henkel, Peter Schilke, Rainer Mauersberger, & Rolf Güsten.* 353, 132, 63-G1 (1990)

GUGLENKO, V. G. Neutrons and Gamma-Ray Emission on 1982 June 3: The Possibility of Fitting the Data on the Assumption of One Population of Accelerated Particles. *V. G. Guglenko, Yu. E. Efimov, G. E. Kocharov, G. A. Kovaltsov, N. Z. Mandzhavidze, M. M. Terekhov, & L. G. Kocharov.* 73, 209, 20-E9 (1990)

GUHATHAKURTA, P. Interstellar Dust in Shapley-Ames Elliptical Galaxies. *M. Jura, D.-W. Kim, G. R. Knapp, & P. Guhathakurta.* 312, L11, 7-A13 (1987)

H I Observations of the Elliptical Galaxies NGC 2974 and NGC 5018. *D.-W. Kim, P. Guhathakurta, J. H. van Gorkom, M. Jura, & G. R. Knapp.* 330, 684, 100-A8 (1988)

Interstellar Matter in Early-Type Galaxies. I. IRAS Flux Densities. *G. R. Knapp, P. Guhathakurta, D.-W. Kim, & M. Jura.* 70, 329, 23-B1 (1989)

Temperature Fluctuations in the Interstellar Grains. I. Computational Method and Sublimation of Small Grains. *P. Guhathakurta & B. T. Draine.* 345, 230, 152-A6 (1989)

Optical Characteristics of Galactic 100 Micron Cirrus. *P. Guhathakurta & J. A. Tyson.* 346, 773, 177-A1 (1989)

A Redshift Limit for the Faint Blue Galaxy Population from Deep *U* Band Imaging. *P. Guhathakurta, J. A. Tyson, & S. R. Majewski.* 357, L9, 115-B11 (1990)

GUILBERT, PAUL W. The Synchrotron Boiler. *Gabriele Ghisellini, Paul W. Guilbert, & Roland Svensson.* 334, L5, 161-B1 (1988)

GUILLORY, J. Radiation from Relativistic Beams Interacting with Interstellar Gas. *W. K. Rose, J. H. Beall, J. Guillory, & S. Kainer.* 314, 95, 29-A12 (1987)

GUILLOTEAU, S. Linear Polarization of HCN Maser Emission in CIT 6. *P. F. Goldsmith, D. C. Lis, A. Omont, S. Guilloteau, & R. Lucas.* 333, 873, 149-G6 (1988)

GUILLOTEAU, STÉPHANE. The Rich Molecular Spectrum and the Rapid Outflow of OH 231.8+4.2. *Mark Morris, Stéphane Guilloteau, Robert Lucas, & Alain Omont.* 321, 888, 134-C5 (1987)

GUIMARAES, PATRICIA T. New Tabulation of the Bound-Continuum Optical Oscillator Strength in Hydrogenic Atoms. *Kazem Omidvar & Patricia T. Guimaraes.* 73, 555, 26-C1 (1990)

GUINAN, E. F. *EXOSAT* Observations of V471 Tauri: A 9.25 Minute White Dwarf Pulsation and Orbital Phase Dependent X-Ray Dips. *K. A. Jensen, J. H. Swank, R. Petre, E. F. Guinan, E. M. Sion, & H. L. Shipman.* 309, L27, 125-E5 (1986)

Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)

Periodic Photospheric and Chromospheric Modulation in Alpha Orionis (Betelgeuse). *A. K. Dupree, S. L. Baliunas, E. F. Guinan, L. Hartmann, G. E. Nassiopoulos, & G. Sonneborn.* 317, L85, 78-D4 (1987)

Mass Loss in a B2 IIIe Star: ω Orionis 1978–1984. *George Sonneborn, C. A. Grady, Chi-Chao Wu, Daniel P. Hayes, E. F. Guinan, Paul K. Barker, & H. F. Henrichs.* 325, 784, 29-B8 (1988)

The Evolution of Magnetic Activity on V711 Tauri and Evidence for a Significant Facular Contribution. *J. D. Dorren & E. F. Guinan.* 348, 703, 11-C1 (1990)

GULKIS, S. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

COBE Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

GULKIS, SAM. Redshifts of Southern Radio Sources. VII. *Graeme L. White, David L. Jauncey, Ann Savage, Alan E. Wright, Michael J. Batty, Bruce A. Peterson, & Sam Gulkis.* 327, 561, 54-G7 (1988)

GULL, G. E. Detection of Silicon in the Galactic Center. *T. Herter, J. R. Houck, P. Graf, & G. E. Gull.* 309, L13, 125-D6 (1986)

Distribution of Si II in the Galactic Center. *P. Graf, T. Herter, G. E. Gull, & J. R. Houck.* 330, 803, 101-D1 (1988)

Electron Temperatures in the High-Excitation Zones of Planetary Nebulae. *N. Rowlands, J. R. Houck, T. Herter, G. E. Gull, & M. F. Skrutskie.* 341, 901, 96-D1 (1989)

Si II Mapping of the Neutral Gas Ring in the Galactic Center: Evidence for Dust Destruction. *T. Herter, G. E. Gull, S. T. Megeath, N. Rowlands, & J. R. Houck.* 343, 696, 127-G1 (1989)

Infrared and Radio Measurements of the Density Structure of Compact H II Regions. *S. T. Megeath, T. Herter, G. E. Gull, & J. R. Houck.* 356, 534, 106-G13 (1990)

GULL, T. R. Spatial and Spectral Interpretation of a Bright Filament in the Cygnus Loop. *J. C. Raymond, J. J. Hester, D. Cox, W. P. Blair, R. A. Fesen, & T. R. Gull.* 324, 869, 13-A1 (1988)

GULL, THEODORE R. Ultraviolet and Visual Wavelength Spectroscopy of Gas around Eta Carinae. *Kris Davidson, Reginald J. Dufour, Nolan R. Walborn, & Theodore R. Gull.* 305, 867, 78-D3 (1986)

The Optical Structure of the Crab Nebula's "Jet." *Robert A. Fesen & Theodore R. Gull.* 306, 259, 84-B5 (1986)

Deep *Einstein* X-Ray Imagery of the Small Magellanic Cloud. *Frederick C. Bruhweiler, Daniel A. Klinglesmith III, Theodore R. Gull, & Sabatino Sofia.* 317, 152, 65-E11 (1987)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 320, 159, 109-F12 (1987)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds: Erratum. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 326, 1040, 45-A9 (1988) (Orig. paper in 320, 159, 109-F12 (1987))

An Extremely Carbon-poor Planetary Nebula in the Small Magellanic Cloud. *Stephen J. Meatheringham, Stephen P. Maran, Theodore P. Stecher, Andrew G. Michalitsianos, Theodore R. Gull, Lawrence H. Aller, & Charles D. Keyes.* 361, 101, 158-C5 (1990)

GULLIVER, AUSTIN F. An Elemental Abundance Analysis of the Superficially Normal A Star Vega. *Saul J. Adelman & Austin F. Gulliver.* 348, 712, 11-C11 (1990)

GULLIXSON, CRAIG. GSS 30: An Infrared Reflection Nebula in the Ophiuchus Dark Cloud: Erratum. *Michael W. Castelaz, John A. Hackwell, Gary L. Grasdalen, Robert D. Gehrz, & Craig Gullixson.* 301, 502, 19-C9 (1986) (Orig. paper in 290, 261, 26-A1 (1985))

1343.4+2640: A Close Quasar Pair. *David Crampton, A. P. Cowley, P. Hickson, E. Kindl, R. Mark Wagner, J. Anthony Tyson, & Craig Gullixson.* 330, 184, 92-A9 (1988)

GULLIXSON, CRAIG A. Optical and Infrared Surface Photometry of NGC 3077. *Jill S. Price & Craig A. Gullixson.* 337, 658, 27-B10 (1989)

GUNN, J. E. The Dust and Gas Surrounding LkHα 101. *R. O. Redman, T. B. H. Kuiper, J. J. Lorre, & J. E. Gunn.* 303, 300, 44-C14 (1986)

A Systematic Survey for Distant Galaxy Clusters. *J. E. Gunn, J. G. Hoessel, & J. B. Oke.* 306, 30, 81-C10 (1986)

The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

GUNN, JAMES. A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain*

Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn. 353, L35, 73-A10 (1990)

GUNN, JAMES E. The Stellar Population of NGC 6166. *Francesco Bertola, Michael D. Gregg, James E. Gunn, & Augustus Oemler, Jr.* 303, 624, 49-C12 (1986)

Spectroscopic CCD Surveys for Quasars at Large Redshift. I. A Deep PFUEI Survey. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 306, 411, 89-A4 (1986)

Spectroscopic CCD Surveys for Quasars at Large Redshift. II. A PFUEI Transit Survey. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 310, 518, 139-D6 (1986)

Nine Optically Selected Quasars with Redshifts Larger than 3. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 316, L1, 56-A4 (1987)

Galaxy Formation by Gravitational Collapse. *Barbara S. Ryden & James E. Gunn.* 318, 15, 79-B5 (1987)

PC 0910+5625: An Optically Selected Quasar with a Redshift of 4.04. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 321, L7, 129-B10 (1987)

Simulations of Deep Redshift Surveys. *David H. Weinberg & James E. Gunn.* 352, L25, 61-A10 (1990)

GUPTA, M. The Abundances of ^{14}N at the Cosmic-Ray Source: A Study Using New Fragmentation Cross Sections. *M. Gupta & W. R. Webber.* 340, 1124, 82-C1 (1989)

A New Limit on the Time between the Nucleosynthesis and the Acceleration of Cosmic Rays in Supernova Remnants Using the Co/Ni Ratio. *W. R. Webber & M. Gupta.* 348, 608, 10-B10 (1990)

The Source Charge and Isotopic Abundances of Cosmic Rays with $Z = 9$–16: A Study Using New Fragmentation Cross Sections. *W. R. Webber, A. Soutoul, P. Ferrando, & M. Gupta.* 348, 611, 10-C1 (1990)

GUPTA, S. K. Episodic Emission from Hercules X-1 at Energies Greater than 10^{14} eV: Observations with Ooty Extensive Air Shower Array during 1986. *S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, R. Srivatsan, & S. C. Tonwar.* 354, L13, 80-B8 (1990)

GUPTA, S. S. Chromospheric Ca II K-Line Variations in the Sun as a Star over a Solar Cycle. *K. R. Sivaraman, Jagdev Singh, S. P. Bagare, & S. S. Gupta.* 313, 456, 20-A6 (1987)

GURMAN, J. B. Spectral Line Profiles of Fe XXI 1354.1 Å from the *Solar Maximum Mission*. *H. E. Mason, R. A. Shine, J. B. Gurman, & R. A. Harrison.* 309, 435, 124-F2 (1986)

GURMAN, JOSEPH B. Simultaneous Measurements of Sunspot Umbral Oscillations in the Photosphere, Chromosphere, and Transition Region. *John H. Thomas, Bruce W. Lites, Joseph B. Gurman, & Edwin F. Ladd.* 312, 457, 5-G9 (1987)

GURNETT, D. A. Evidence for Nonlinear Wave-Wave Interactions in Solar Type III Radio Bursts. *R. P. Lin, W. K. Levedahl, W. Lotko, D. A. Gurnett, & F. L. Scarf.* 308, 954, 119-D7 (1986)

GURWELL, MARK. The H II Regions of M101. I. An Atlas of 1264 Emission Regions. *Paul W. Hodge, Mark Gurwell, Jeffrey D. Goldader, & Robert C. Kennicutt, Jr.* 73, 661, 26-F13 (1990)

GURZADYAN, G. A. On Negative Infrared Flares of Flare Stars. *G. A. Gurzadyan.* 332, 183, 125-B1 (1988)

GUSSIE, G. T. VLA Observations of Circumnebular Neutral Hydrogen in IC 418. *A. R. Taylor, G. T. Gussie, & W. M. Goss.* 340, 932, 80-A6 (1989)

Circumnebular Neutral Hydrogen in Planetary Nebulae. *A. R. Taylor, G. T. Gussie, & S. R. Pottasch.* 351, 515, 46-E1 (1990)

GUSTAFSON, BOÅ. S. Comet Ejection and Dynamics of Nonspherical Dust Particles and Meteoroids. *Boå. S. Gustafson.* 337, 945, 30-E6 (1989)

GUSTAFSSON, B. Spectroscopy of the Rapidly Rotating K Star HD 36705. *O. Vilhu, B. Gustafsson, & B. Edvardsson.* 320, 850, 119-B5 (1987)

GUSTAFSSON, BENGT. The Chemical Composition of Carbon Stars. I. Carbon, Nitrogen, and Oxygen in 30 Cool Carbon Stars in the Galactic Disk. *David L. Lambert, Bengt Gustafsson, Kjell Eriksson, & Kenneth H. Hinkle.* 62, 373, 36-C6 (1986)

Oxygen Isotopic Abundances in Evolved Stars. III. 26 Carbon Stars. *Michael J. Harris, David L. Lambert, Kenneth H. Hinkle, Bengt Gustafsson, & Kjell Eriksson.* 316, 294, 53-B14 (1987)

GUZIK, JOYCE A. A Comparison between Mass-losing and Standard Solar Models. *Joyce A. Guzik, L. A. Willson, & Wendee M. Brunish.* 319, 957, 105-D5 (1987)

Oscillations of Solar Models with Internal Element Diffusion. *Arthur N. Cox, Joyce A. Guzik, & Russell B. Kidman.* 342, 1187, 116-F4 (1989)

Oscillations of Condensed-out Iron and Cosmion Solar Models. *Arthur N. Cox, Joyce A. Guzik, & Stuart Raby.* 353, 698, 72-E1 (1990)

GUZIK, T. G. Cosmic-Ray Propagation in the Galaxy and in the Heliosphere: The Path Length Distribution at Low Energy. *M. Garcia-Munoz, J. A. Simpson, T. G. Guzik, J. P. Wefel, & S. H. Margolis.* 64, 269, 19-F6 (1987)

GWINN, C. R. The Distance to the Center of the Galaxy: H_2O Maser Proper Motions in Sagittarius B2(N). *M. J. Reid, M. H. Schneps, J. M. Moran, C. R. Gwinn, R. Genzel, D. Downes, & B. Rönnäng.* 330, 809, 101-D7 (1988)

Limits on Refractive Interstellar Scattering toward Sagittarius B2. *C. R. Gwinn, J. M. Moran, M. J. Reid, & M. H. Schneps.* 330, 817, 101-E1 (1988)

VLBI Observations of a Pulsar's Scattering Disk. *C. R. Gwinn, J. M. Cordes, N. Bartel, A. Wolszczan, & R. L. Mutel.* 334, L13, 161-B10 (1988)

First Images of Water Vapor Masers in the Galaxy M33. *L. J. Greenhill, J. M. Moran, M. J. Reid, C. R. Gwinn, K. M. Menten, A. Eckart, & H. Hirabayashi.* 364, 513, 202-E1 (1990)

GWINN, CARL R. Evidence for an Inner Scale to the Density Turbulence in the Interstellar Medium. *Steven R. Spangler & Carl R. Gwinn.* 353, L29, 67-D1 (1990)

HAAG, CHESTER. Spectroscopy of the Optical Photosphere of the Hot Pulsating Star BW Vulpeculae. *Ingemar Furenlid, Arthur Young, Thomas Meylan, Chester Haag, & Greg Crinklaw.* 319, 264, 95-G9 (1987)

HAARALA, S. OJ 287: Binary Pair of Supermassive Black Holes. *A. Sillanpää, S. Haarala, M. J. Valtonen, B. Sundelius, & G. G. Byrd.* 325, 628, 27-D6 (1988)

HAAS, M. Detection of an Infrared Companion to Haro 6–10. *Ch. Leinert & M. Haas.* 342, L39, 109-D3 (1989)

HAAS, M. R. Detection of Si II (34.8 Micron) Emission in Orion-KL: A Measurement of the Silicon Abundance in Dense Interstellar Gas. *M. R. Haas, D. J. Hollenbach, & E. F. Erickson.* 301, L57, 27-C7 (1986)

The Ionization Structure of the Orion Nebula: Infrared Line Observations and Models. *J. P. Simpson, R. H. Rubin, E. F. Erickson, & M. R. Haas.* 311, 895, 157-E7 (1986)

Far-Infrared Spectroscopy of Star Formation Regions in M82. *P. B. Duffy, E. F. Erickson, M. R. Haas, & J. R. Houck.* 315, 68, 40-F6 (1987)

Determination of N/O from Far-Infrared Line Observations of Galactic H II Regions. *R. H. Rubin, J. P. Simpson, E. F. Erickson, & M. R. Haas.* 327, 377, 51-B4 (1988)

Shocked [O I] 63 Micron Line Emission from the Supernova Remnant IC 443. *Michael G. Burton, D. J. Hollenbach, M. R. Haas, & E. F. Erickson.* 355, 197, 89-D1 (1990)

Far-Infrared Spectroscopy of the DR 21 Star Formation Region. *Adair P. Lane, M. R. Haas, D. J. Hollenbach, & E. F. Erickson.* 361, 132, 158-F1 (1990)

HAAS, MICHAEL R. Observations of the 63 Micron [O I] Line in Herbig-Haro Objects. *Martin Cohen, David J. Hollenbach, Michael R. Haas, & Edwin F. Erickson.* 329, 863, 86-E1 (1988)

Observations of Fe II (26.0 Microns) in SN 1987A. *Edwin F. Erickson, Michael R. Haas, Sean W. J. Colgan, Steven D. Lord, Michael G. Burton, Jürgen Wolf, David J. Hollenbach, & Michael Werner.* 330, L39, 96-F7 (1988)

Velocity-resolved Far-Infrared Spectra of [Fe II]: Evidence for Mixing and Clumping in SN 1987A. *Michael R. Haas, Sean W. J. Colgan, Edwin F. Erickson, Steven D. Lord, Michael G. Burton, & David J. Hollenbach.* 360, 257, 148-B12 (1990)

HABBAL, SHADIA R. Solar Coronal Bright Points Observed with the VLA. *Shadia R. Habbal, Robert S. Ronan, George L. Withbroe, Raghunath K. Shevgaonkar, & Mukul R. Kundu.* 306, 740, 92-E12 (1986)

Simultaneous Observations of 20 Centimeter Bright Points and He I 10830 Å Dark Points in the Quiet Sun. *Shadia R. Habbal & Karen L. Harvey.* 326, 988, 44-D1 (1988)

HABBAL, SHADIA RIFAI. Synthesis Mapping of a Solar Type I Storm Simultaneously at 90 and 20 Centimeters with the VLA. *Shadia Rifai Habbal, Nancy E. Ellman, & Raymond Gonzalez.* 342, 594, 108-A10 (1989)

A Comparison between Bright Points in a Coronal Hole and a Quiet-Sun Region. *Shadia Rifai Habbal, James F. Dowdy, Jr., & George L. Withbroe.* 352, 333, 54-A1 (1990)

HABE, ASAO. Gasdynamical Calculations of Preferred Planes in Prolate and Triaxial Galaxies. II. The Case of a Tumbling Potential. *Asao Habe & Satoru Ikeuchi.* 326, 84, 32-G9 (1988)

HABERL, F. The Bursting Behavior of the Transient X-Ray Burst Source EXO 0748–676: A Dependence between the X-Ray Burst Properties and the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. N. Parmar, & N. E. White.* 308, 213, 110-D4 (1986)

EXOSAT Observations of Double-peaked Bursts with Radius Expansion from 4U/MXB 1820–30. *F. Haberl, L. Stella, N. E. White, W. C. Priedhorsky, & M. Gottwald.* 314, 266, 31-A9 (1987)

The Properties of Bursts with Short Recurrence Times from the Transient X-Ray Source EXO 0748–676. *M. Gottwald, F. Haberl, A. N. Parmar, & N. E. White.* 323, 575, 161-A11 (1987)

Quasi-periodic Oscillations in the X-Ray Flux of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, J. van Paradijs, & N. E. White.* 324, 379, 5-C9 (1988)

Time Lags in the Quasi-periodic Oscillations of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, M. van der Klis, & J. van Paradijs.* 327, L13, 53-B1 (1988)

X-Ray Bursts from 4U 1705–44: Another Case of Burst Properties Dependent on the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. Langmeier, G. Hasinger, W. H. G. Lewin, & J. van Paradijs.* 339, 1044, 64-E8 (1989)

An *EXOSAT* X-Ray Observation of One Orbital Cycle of 4U 1700–37/HD 153919. *F. Haberl, N. E. White, & T. R. Kallman.* 343, 409, 123-B8 (1989)

The X-Ray Absorption Spectrum of Vela X-1. *F. Haberl & N. E. White.* 361, 225, 159-F9 (1990)

HABERZETTL, H. Equations of Motion Using the Dynamical Evolution of the Runge-Lenz Vector. *E. A. Bartnik, H. Haberzettl, & W. Sandhas.* 334, 517, 160-E8 (1988)

HABIB, SALMAN. Gravitational Landau Damping for an Isotropic Cluster of Stars. *Salman Habib, Henry E. Kandrup, & Ping F. Yip.* 309, 176, 121-G11 (1986)

HABING, H. J. *IRAS* Observations of the Nuclear Bulge of M31. *B. T. Soifer, W. L. Rice, J. R. Mould, F. C. Gillett, M. Rowan-Robinson, & H. J. Habing.* 304, 651, 63-B9 (1986)

A Catalog of *IRAS* Observations of Large Optical Galaxies. *W. Rice, Carol J. Lonsdale, B. T. Soifer, G. Neugebauer, E. L. Koplan, Lawrence A. Lloyd, T. de Jong, & H. J. Habing.* 68, 91, 24-F1 (1988)

HACHISU, IZUMI. A Versatile Method for Obtaining Structures of Rapidly Rotating Stars. *Izumi Hachisu.* 61, 479, 24-B5 (1986)

Fate of Merging Double White Dwarfs. *Izumi Hachisu, Yoshiharu Eriguchi, & Ken'ichi Nomoto.* 308, 161, 109-G5 (1986)

A Versatile Method for Obtaining Structures of Rapidly Rotating Stars. II. Three-dimensional Self-consistent Field Method. *Izumi Hachisu.* 62, 461, 37-C11 (1986)

Fate of Merging Double White Dwarfs. II. Numerical Method. *Izumi Hachisu, Yoshiharu Eriguchi, & Ken'ichi Nomoto.* 311, 214, 148-C14 (1986)

Fragmentation of Rapidly Rotating Gas Clouds. I. A Universal Criterion for Fragmentation. *Izumi Hachisu, Joel E. Tohline, & Yoshiharu Eriguchi.* 323, 592, 161-C1 (1987)

Fragmentation of Rapidly Rotating Gas Clouds. II. Polytropes—Clues to the Outcome of Adiabatic Collapse. *Izumi Hachisu, Joel E. Tohline, & Yoshiharu Eriguchi.* 66, 315, 6-D1 (1988)

Mass Loss during Nova Outburst. *Mariko Kato & Izumi Hachisu.* 329, 808, 85-G6 (1988)

Stellar Wind during Helium Nova Outburst. *Mariko Kato, Hideyuki Saio, & Izumi Hachisu.* 340, 509, 73-E5 (1989)

A New Way to Type Ia Supernovae: Explosion in Common Envelope. *Izumi Hachisu, Mariko Kato, & Hideyuki Saio.* 342, L19, 109-B10 (1989)

Mass Loss during Nova Outbursts on Various White Dwarf Masses. *Mariko Kato & Izumi Hachisu.* 346, 424, 171-D1 (1989)

X-Ray Decline and Rejuvenation of a Recurrent Nova. *Hiroshi Itoh & Izumi Hachisu.* 358, 551, 130-D3 (1990)

Nonlinear Growth of Rayleigh-Taylor Instabilities and Mixing in SN 1987A. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 358, L57, 133-D6 (1990)

The Breakup of Self-gravitating Rings, Tori, and Thick Accretion Disks. *Joel E. Tohline & Izumi Hachisu.* 361, 394, 163-A10 (1990)

HACKING, PERRY. A Very Deep *IRAS* Survey at $l = 97°$, $b = 30°$. *Perry Hacking & J. R. Houck.* 63, 311, 5-A3 (1987)

A Very Deep *IRAS* Survey: Constraints on the Evolution of Starburst Galaxies. *Perry Hacking, J. J. Condon, & J. R. Houck.* 316, L15, 56-B4 (1987)

Properties of Evolved Mass-losing Stars in the Milky Way and Variations in the Interstellar Dust Composition. *Harley A. Thronson, Jr., William B. Latter, John H. Black, John Bally, & Perry Hacking.* 322, 770, 148-C5 (1987)

A Very Deep *IRAS* Survey. III. VLA Observations. *Perry Hacking, J. J. Condon, J. R. Houck, & C. A. Beichman.* 339, 12, 50-B6 (1989)

HACKING, PERRY B. Galaxy Evolution and Large-Scale Structure in the Far-Infrared. I. *IRAS* Pointed Observations. *Carol J. Lonsdale & Perry B. Hacking.* 339, 712, 60-F1 (1989)

Galaxy Evolution and Large-Scale Structure in the Far-Infrared. II. The *IRAS* Faint Source Survey. *Carol J. Lonsdale, Perry B. Hacking, T. P. Conrow, & M. Rowan-Robinson.* 358, 60, 122-G1 (1990)

HACKNEY, K. R. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

HACKNEY, K. R. H. Eight Years of Ultraviolet Spectra of the Variable BL Lacertae Object PKS 2155–305. *C. M. Urry, Y. Kondo, K. R. H. Hackney, & R. L. Hackney.* 330, 791, 101-C3 (1988)

HACKNEY, R. L. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

Eight Years of Ultraviolet Spectra of the Variable BL Lacertae Object PKS 2155–305. *C. M. Urry, Y. Kondo, K. R. H. Hackney, & R. L. Hackney.* 330, 791, 101-C3 (1988)

HACKWELL, J. A. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

A Neon Nova: Discovery of a Remarkable 12.8 Micron [Ne II] Emission Line in Nova Vulpeculae 1984 Number 2: Erratum. *R. D. Gehrz, G. L. Grasdalen, & J. A. Hackwell.* 306, L49, 86-D6 (1986) (Orig. paper in 298, L47, 125-D9 (1985))

The Neon Nova. II. Condensation of Silicate Grains in the Ejecta of Nova Vulpeculae 1984 Number 2. *R. D. Gehrz, G. L. Grasdalen, M. Greenhouse, J. A. Hackwell, T. Hayward, & A. F. Bentley.* 308, L63, 120-F12 (1986)

PW Vulpeculae: A Dust-poor DQ Herculis? *R. D. Gehrz, T. E. Harrison, E. P. Ney, K. Matthews, G. Neugebauer, J. Elias, G. L. Grasdalen, & J. A. Hackwell.* 329, 894, 86-G6 (1988)

HACKWELL, JOHN A. An Infrared Reflection Nebula Surrounding SGS 1 in the NGC 1333 Dark Cloud. *Michael W. Castelaz, John A.*

Hackwell, Gary L. Grasdalen, & Robert D. Gehrz. 300, 406, 5-D14 (1986)
GSS 30: An Infrared Reflection Nebula in the Ophiuchus Dark Cloud: Erratum. *Michael W. Castelaz, John A. Hackwell, Gary L. Grasdalen, Robert D. Gehrz, & Craig Gullixson.* 301, 502, 19-C9 (1986) (Orig. paper in 290, 261, 26-A1 (1985))
The Internal Structure of the Dust Shell of Eta Carinae Deduced from Six Channel 8–13 Micron Mapping. *John A. Hackwell, Robert D. Gehrz, & Gary L. Grasdalen.* 311, 380, 150-C9 (1986)
The Discovery of an Infrared Reflection Nebula Surrounding R Coronae Australis IRS 5. *Michael W. Castelaz & John A. Hackwell.* 314, 317, 31-E9 (1987)
Airborne Spectrophotometry of Eta Carinae from 4.5 to 7.5 Microns and a Model for Source Morphology. *Ray W. Russell, David K. Lynch, John A. Hackwell, Richard J. Rudy, George S. Rossano, & M. W. Castelaz.* 321, 937, 134-F12 (1987)
Near-Infrared Light and the Morphology of Arp 220. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, & R. D. Dietz.* 329, 107, 76-B3 (1988)
Infrared Imaging of the Compact H II Region W3A. *Thomas L. Hayward, Gary L. Grasdalen, Charles E. Woodward, John A. Hackwell, Robert D. Gehrz, & Judith L. Pipher.* 345, 894, 161-F1 (1989)
Starlight Morphology of the Interacting Galaxy NGC 5195. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, R. D. Dietz, & Scott D. Friedman.* 362, 455, 176-B10 (1990)
HACYAN, S. Relaxation Time of Neutrinos in the Early Universe. *M. A. Herrera & S. Hacyan.* 336, 539, 9-C1 (1989)
HADJOPOULOS, A. A. Models of White Dwarfs under Rapid Uniform or Differential Rotation: Numerical Results. *V. S. Geroyannis & A. A. Hadjopoulos.* 70, 661, 27-F1 (1989)
HAENSEL, P. Thermal Structure of Accreting Neutron Stars and Strange Stars. *J. Miralda-Escudé, P. Haensel, & B. Paczyński.* 362, 572, 177-G9 (1990)
HAGE, J. I. A Model for the Optical Properties of Porous Grains. *J. I. Hage & J. Mayo Greenberg.* 361, 251, 160-A11 (1990)
From Interstellar Dust to Comets: A Unification of Observational Constraints. *J. Mayo Greenberg & J. I. Hage.* 361, 260, 160-B7 (1990)
HAGEN, WENDY. Ultraviolet and Infrared Observations of Stars with "Quenched" Chromospheres and the Nature of Mass Loss. *Robert E. Stencel, Kenneth G. Carpenter, & Wendy Hagen.* 308, 859, 118-C10 (1986)
HAGFORS, T. Radio Interferometry by Lunar Reflections. *T. Hagfors, J. A. Phillips, & L. Belkora.* 362, 308, 173-A7 (1990)
HAGYARD, M. J. A Comparison of Photospheric Electric Current and Ultraviolet and X-Ray Emission in a Solar Active Region. *Bernhard M. Haisch, Marilyn E. Bruner, M. J. Hagyard, & R. M. Bonnet.* 300, 428, 5-F8 (1986)
Nonpotential Features Observed in the Magnetic Field of an Active Region. *G. A. Gary, R. L. Moore, M. J. Hagyard, & Bernhard M. Haisch.* 314, 782, 38-B8 (1987)
Nonpotential Magnetic Fields at Sites of Gamma-Ray Flares. *M. J. Hagyard, P. Venkatakrishnan, & J. B. Smith, Jr.* 73, 159, 19-F13 (1990)
On the Numerical Computation of Nonlinear Force-free Magnetic Fields. *S. T. Wu, M. T. Sun, H. M. Chang, M. J. Hagyard, & G. A. Gary.* 362, 698, 179-D6 (1990)
HAGYARD, MONA J. The Observed Characteristics of Flare Energy Release. I. Magnetic Structure at the Energy Release Site. *Marcos E. Machado, Ronald L. Moore, Ana M. Hernandez, Marta G. Rovira, Mona J. Hagyard, & Jesse B. Smith, Jr.* 326, 425, 37-A1 (1988)
HAINES, T. J. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)
HAISCH, B. M. *Einstein Observatory* Magnitude-limited X-Ray Survey of Late-Type Giant and Supergiant Stars. *A. Maggio, G. S. Vaiana, B. M. Haisch, R. A. Stern, J. Bookbinder, F. R. Harnden, Jr., & R. Rosner.* 348, 253, 4-B3 (1990)
HAISCH, BERNHARD M. A Comparison of Photospheric Electric Current and Ultraviolet and X-Ray Emission in a Solar Active Region. *Bernhard M. Haisch, Marilyn E. Bruner, M. J. Hagyard, & R. M. Bonnet.* 300, 428, 5-F8 (1986)
On the Dividing Line for Stellar Coronae. *Spiro K. Antiochos, Bernhard M. Haisch, & Robert A. Stern.* 307, L55, 107-C1 (1986)
Nonpotential Features Observed in the Magnetic Field of an Active Region. *G. A. Gary, R. L. Moore, M. J. Hagyard, & Bernhard M. Haisch.* 314, 782, 38-B8 (1987)
Active Region Coronal Loops: Structure and Variability. *Bernhard M. Haisch, Keith T. Strong, Richard A. Harrison, & G. A. Gary.* 68, 371, 28-E1 (1988)
IUE and *Einstein* Survey of Late-Type Giant and Supergiant Stars and the Dividing Line. *Bernhard M. Haisch, Jay A. Bookbinder, A. Maggio, G. S. Vaiana, & Jeffrey O. Bennett.* 361, 570, 165-B8 (1990)
HAKKILA, JON. Statistical Corrections for Some Distance-limited Stellar Samples. *Jon Hakkila.* 346, 932, 178-F7 (1989)
HALENKA, J. The Impact of the Pressure Shift of Hydrogen Lines on "Relativistic" Masses of White Dwarfs. *B. Grabowski, J. Madej, & J. Halenka.* 313, 750, 25-A8 (1987)
HALL, D. N. B. Spectra of Late-Type Standard Stars in the Region 2.0–2.5 Microns. *S. G. Kleinmann & D. N. B. Hall.* 62, 501, 38-A4 (1986)
Radial Velocities of Late-Type Stars in the Galactic Center. *K. Sellgren, D. N. B. Hall, S. G. Kleinmann, & N. Z. Scoville.* 317, 881, 75-F5 (1987)
Infrared Array Imaging and Spectrophotometry of the Nuclear Region of the "Hot Spot" Galaxy NGC 2903. *D. A. Simons, D. L. DePoy, E. E. Becklin, R. W. Capps, K.-W. Hodapp, & D. N. B. Hall.* 335, 126, 171-F9 (1988)
Stellar Kinematics in the Galactic Center. *M. T. McGinn, K. Sellgren, E. E. Becklin, & D. N. B. Hall.* 338, 824, 44-B7 (1989)
Velocity Dispersion and the Stellar Population in the Central 1.2 Parsecs of the Galaxy. *K. Sellgren, M. T. McGinn, E. E. Becklin, & D. N. B. Hall.* 359, 112, 135-D9 (1990)
HALL, D. S. Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)
HALL, D. T. Electron Impact Excitation of H_2: Rydberg Band Systems and the Benchmark Dissociative Cross Section of H Lyman-Alpha. *D. E. Shemansky, J. M. Ajello, & D. T. Hall.* 315, 408, 44-C14 (1987) (Orig. paper in 296, 765, 98-D6 (1985))
HALL, DONALD N. B. The IRC +10216 Circumstellar Envelope. I. Models for the Dust and Gas. *J. J. Keady, Donald N. B. Hall, & S. T. Ridgway.* 326, 832, 42-F6 (1988)
HALL, DOUGLAS S. Pseudosynchronization Found in Binaries with Eccentric Orbits. *Douglas S. Hall.* 309, L83, 131-E8 (1986)
Photometric Variability of Chromospherically Active Stars. I. The Constant Stars. *Klaus G. Strassmeier & Douglas S. Hall.* 67, 439, 18-A7 (1988)
Photometric Variability in Chromospherically Active Stars. II. The Rapidly Rotating Single Stars. *Klaus G. Strassmeier & Douglas S. Hall.* 67, 453, 18-C1 (1988)
Photometric Variability in Chromospherically Active Stars. III. The Binary Stars. *Klaus G. Strassmeier, Douglas S. Hall, Louis J. Boyd, & Russell M. Genet.* 69, 141, 2-G3 (1989)
HR 1362: A Test Case for Stellar Dynamo Theories. *Klaus G. Strassmeier, Douglas S. Hall, William S. Barksdale, Anthony T. Jusick, & Gregory W. Henry.* 350, 367, 29-E3 (1990)
Photometry of 50 Suspected Variable Stars. *James T. Hooten & Douglas S. Hall.* 74, 225, 33-B3 (1990)
HALL, J. Superluminal Motion toward a Stationary Knot in the Radio Core of the Quasar 3C 395. *R. S. Simon, J. Hall, K. J. Johnston, J. H. Spencer, J. A. Waak, & R. L. Mutel.* 326, L5, 38-A8 (1988)
HALL, JEFFREY C. Fiber-optic Echelle CCD Observations of SS Bootis. *Jeffrey C. Hall, David P. Huenemoerder, Lawrence W. Ramsey, & Derek L. Buzasi.* 358, 610, 131-B3 (1990)

HALL, LAWRENCE J. Is the Universe Closed by Baryons? Nucleosynthesis with a Late-decaying Massive Particle. *Savas Dimopoulos, Rahim Esmailzadeh, Lawrence J. Hall, & Glenn D. Starkman.* 330, 545, 98-E1 (1988)

HALL, P. J. Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)

An Upper Limit on the H I Content of the Carina Dwarf Spheroidal Galaxy. *J. R. Mould, G. D. Bothun, P. J. Hall, L. Staveley-Smith, & A. E. Wright.* 362, L55, 181-C7 (1990)

HALLIDAY, I. Evidence from Meteor Patrol Photographs for a Nonastronomical Origin of the Reported Optical Flashes in Perseus. *I. Halliday, P. A. Feldman, & A. T. Blackwell.* 320, L153, 121-F11 (1987)

HALONEN, L. Infrared Transition Frequencies for Methyleneimine, CH_2NH. *L. Halonen & G. Duxbury.* 303, 897, 52-D13 (1986)

HALPERN, J. P. Detection of [Ni II] λ7378 in Six Seyfert Galaxies. *J. P. Halpern & J. B. Oke.* 301, 753, 23-G4 (1986)

1E 1415.6+2557: An X-Ray–Selected BL Lacertae Object in a Luminous Galaxy. *J. P. Halpern, C. D. Impey, G. D. Bothun, S. Tapia, E. D. Skillman, A. S. Wilson, & E. J. A. Meurs.* 302, 711, 38-D5 (1986)

X-Ray Emission Lines from Three Galactic Bulge Sources. *S. D. Vrtilek, D. J. Helfand, J. P. Halpern, S. M. Kahn, & F. D. Seward.* 308, 644, 116-A10 (1986)

Narrow-Line Seyfert Galaxies with Permitted Fe II Emission: Markarian 507, 5C 3.100, and I Zwicky 1. *J. P. Halpern & J. B. Oke.* 312, 91, 2-A9 (1987)

A Hard X-Ray Source in the Nearest Molecular Cloud. *J. P. Halpern & J. Patterson.* 312, L31, 7-C2 (1987)

The X-Ray Spectrum of NGC 1068. *R. Monier & J. P. Halpern.* 315, L17, 45-B6 (1987)

The Geminga X-Ray Counterpart and a Blue Optical Identification. *J. P. Halpern & D. Tytler.* 330, 201, 92-C1 (1988)

A Soft X-Ray Flare in the Seyfert 1 Galaxy Markarian 335. *M. G. Lee, Bruce Balick, J. P. Halpern, & T. M. Heckman.* 331, 154, 107-F10 (1988)

On the Nature of the X-Ray Pulsar near Lynds 1457. *J. Patterson & J. P. Halpern.* 361, 173, 159-B7 (1990)

Line Emission from Another Relativistic Accretion Disk: 3C 332. *J. P. Halpern.* 365, L51, 219-B13 (1990)

HALPERN, JULES P. Kinematic Evidence for a Relativistic Keplerian Disk: Arp 102B. *Kaiyou Chen, Jules P. Halpern, & Alexei V. Filippenko.* 339, 742, 61-A9 (1989)

The Wasilewski Sample of Emission-Line Galaxies: Follow-up CCD Imaging and Spectroscopic and *IRAS* Observations. *Gregory D. Bothun, Jules P. Halpern, Carol J. Lonsdale, Chris Impey, & Mark Schmitz.* 70, 271, 22-C7 (1989)

Structure of Line-emitting Accretion Disks in Active Galactic Nuclei: Arp 102B. *Kaiyou Chen & Jules P. Halpern.* 344, 115, 134-D12 (1989)

Spectropolarimetric Test of the Relativistic Disk Model for the Broad Emission Lines of Active Galactic Nuclei. *Kaiyou Chen & Jules P. Halpern.* 354, L1, 80-A7 (1990)

HALPERN, MARK. Measurements of the Anisotropy of the Cosmic Background Radiation and Diffuse Galactic Emission at Millimeter and Submillimeter Wavelengths. *Mark Halpern, Richard Benford, Stephan Meyer, Dirk Muehlner, & Rainer Weiss.* 332, 596, 130-F12 (1988)

HAMABATA, HIROMITSU. The α-Effect Generated by Random Alfvén Waves in a Stratified Atmosphere and Particle Acceleration. *Tomikazu Namikawa, Hiromitsu Hamabata, & Hiroyuki Wada.* 323, 414, 157-F3 (1987)

HAMABE, MASARU. Surface Photometry of Edge-on Galaxies. VI. NGC 4452 and NGC 4762. *Masaru Hamabe & Ken-ichi Wakamatsu.* 339, 783, 61-E1 (1989)

Surface Photometry of Barred Spiral Galaxies. *Kouji Ohta, Masaru Hamabe, & Ken-ichi Wakamatsu.* 357, 71, 112-A2 (1990)

HAMANN, F. Velocity-resolved Infrared Spectroscopy of MWC 349. *F. Hamann & M. Simon.* 311, 909, 157-F13 (1986)

The Infrared Emission-Line Spectrum of γ Cassiopeiae. *F. Hamann & M. Simon.* 318, 356, 82-F10 (1987)

2.0 to 2.4 Micron Spectroscopy of T Tauri Stars. *F. Hamann, M. Simon, & S. T. Ridgway.* 326, 859, 43-A5 (1988)

7500–9300 Å Spectroscopy of MWC 349A. *F. Hamann & M. Simon.* 327, 876, 58-C4 (1988)

High-Resolution Spectra of the Luminous Young Stellar Object V645 Cygni. *F. Hamann & S. E. Persson.* 339, 1078, 65-A7 (1989)

HAMANN, FRED. The Similar Emission-Line Spectra of the Young Star LkHα 101 and the Hypergiant MWC 300. *Fred Hamann & S. E. Persson.* 71, 931, 49-B1 (1989)

HAMANN, W.-R. Non–LTE Model Calculations for SN 1987A and the Extragalactic Distance Scale. *W. Schmutz, D. C. Abbott, R. S. Russell, W.-R. Hamann, & U. Wessolowski.* 355, 255, 90-A12 (1990)

HAMANN, WOLF-RAINER. Atmospheric Models for Luminous Blue Variables. *Claus Leitherer, Werner Schmutz, David C. Abbott, Wolf-Rainer Hamann, & Ulf Wessolowski.* 346, 919, 178-E8 (1989)

HAMEURY, J. M. The Evolution of Magnetic Cataclysmic Variables. *J. M. Hameury, A. R. King, J.-P. Lasota, & H. Ritter.* 316, 275, 53-A9 (1987)

The Period Distribution of Cataclysmic Variables. *J. M. Hameury, A. R. King, J. P. Lasota, & H. Ritter.* 327, L77, 61-D10 (1988)

HAMEURY, JEAN-MARIE. Black Hole X-Ray Transients. *Jean-Marie Hameury, Andrew R. King, & Jean-Pierre Lasota.* 353, 585, 71-B11 (1990)

HAMILTON, A. J. S. The X-Ray Spectrum of SN 1006. *A. J. S. Hamilton, C. L. Sarazin, & A. E. Szymkowiak.* 300, 698, 10-F13 (1986)

The X-Ray Spectrum of Tycho. *A. J. S. Hamilton, C. L. Sarazin, & A. E. Szymkowiak.* 300, 713, 11-A1 (1986)

The Topology of the Large-Scale Structure of the Universe. *A. J. S. Hamilton, J. Richard Gott III, & David Weinberg.* 309, 1, 120-A9 (1986)

The Reionization of Unshocked Ejecta in SN 1006. *A. J. S. Hamilton & R. A. Fesen.* 327, 178, 49-A1 (1988)

Cluster-Cluster Correlations and Constraints on the Correlation Hierarchy. *A. J. S. Hamilton & J. R. Gott III.* 331, 641, 115-G3 (1988)

Evidence for Biasing in the CfA Survey. *A. J. S. Hamilton.* 331, L59, 121-B1 (1988)

On Hierarchical Solutions to the BBGKY Hierarchy. *A. J. S. Hamilton.* 332, 67, 123-G1 (1988)

HAMILTON, ANDREW J. S. High-Velocity Ultraviolet Iron, Silicon, Oxygen, and Sulfur Absorption Features Associated with the Remnant of SN 1006. *Robert A. Fesen, Chi-Chao Wu, Marvin Leventhal, & Andrew J. S. Hamilton.* 327, 164, 48-G1 (1988)

The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

Discovery of the Remnant of S Andromedae (SN 1885) in M31. *Robert A. Fesen, Andrew J. S. Hamilton, & Jon M. Saken.* 341, L55, 99-E10 (1989)

Topology of Large-Scale Structure. IV. Topology in Two Dimensions. *Adrian L. Melott, Alexander P. Cohen, Andrew J. S. Hamilton, J. Richard Gott III, & David H. Weinberg.* 345, 618, 158-D1 (1989)

HAMILTON, D. C. A Multispacecraft Study of the Injection and Transport of Solar Energetic Particles. *J. Beeck, G. M. Mason, D. C. Hamilton, G. Wibberenz, H. Kunow, D. Hovestadt, & B. Klecker.* 322, 1052, 151-D14 (1987)

HAMILTON, DON. Forbidden [O II] and [O III] Emission 29″ from a QSO Absorption-Line Region. *Brian Yanny, Don Hamilton, R. A. Schommer, T. B. Williams, & D. G. York.* 323, L19, 158-B7 (1987)

A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

HAMILTON, DONALD. The Host Galaxy of Markarian 231. *Donald Hamilton & William C. Keel.* 321, 211, 124-E1 (1987)

The Properties and Environment of the Giant, Infrared-Luminous Galaxy IRAS 09104+4109. *S. G. Kleinmann, Donald Hamilton,*

W. C. Keel, C. G. Wynn-Williams, S. A. Eales, E. E. Becklin, & K. D. Kuntz. 328, 161, 63-F11 (1988)

Spectrophotometry of Three Faint Blue Galaxies in Selected Area 57. *John S. Gallagher III & Donald Hamilton.* 330, 661, 99-F6 (1988)

Possible Pleiades Members with $\mathcal{M} \cong 0.07\ \mathcal{M}_{\odot}$: Identification of Brown Dwarf Candidates of Known Age, Distance, and Metallicity. *John Stauffer, Donald Hamilton, Ronald Probst, George Rieke, & Mario Mateo.* 344, L21, 140-B13 (1989)

HAMILTON, RUSSELL J. Generation of Plasma Waves by Thick-Target Electron Beams and the Expected Radiation Signature. *Russell J. Hamilton & Vahé Petrosian.* 321, 721, 132-D6 (1987)

Numerical Solution of the Time-dependent Kinetic Equation for Electrons in Magnetized Plasma. *Russell J. Hamilton, Edward T. Lu, & Vahé Petrosian.* 354, 726, 85-C9 (1990)

Statistical Study of the Correlation of Hard X-Ray and Type III Radio Bursts in Solar Flares. *Russell J. Hamilton, Vahé Petrosian, & A. O. Benz.* 358, 644, 131-E1 (1990)

Effects of Coulomb Collisions on Cyclotron Maser and Plasma Wave Growth in Magnetic Loops. *Russell J. Hamilton & Vahé Petrosian.* 365, 778, 218-A1 (1990)

HAMILTON, T. T. The Origin of the Diffuse X-Ray Background. *T. T. Hamilton & D. J. Helfand.* 318, 93, 80-A1 (1987)

HAMMEL, H. B. Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher, H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina.* 310, L61, 138-E4 (1986)

HAMMER, F. Peculiar Morphology of the High-Redshift Radio Galaxies 3C 13 and 3C 256 in Subarcsecond Seeing. *O. Le Fèvre, F. Hammer, L. Nottale, A. Mazure, & C. Christian.* 324, L1, 9-A4 (1988)

High Spatial Resolution Imaging of Some of the Most Distant 3CR Galaxies. *O. Le Fèvre, F. Hammer, & J. Jones.* 331, L73, 121-C3 (1988)

Imaging of Very Distant 3CR Galaxies: High Spatial Resolution Data for Seven Galaxies with $1.176 \leq z \leq 1.841$. *O. Le Fèvre & F. Hammer.* 333, L37, 152-B1 (1988)

3CR 208.1: A Radio-loud Quasar at $z = 1.02$ Gravitationally Amplified by a Foreground Seyfert Galaxy at $z = 0.159$. *O. Le Fèvre & F. Hammer.* 350, L1, 31-A7 (1990)

High Spatial Resolution Imaging of 10 3CR Galaxies with $z \geq 1$ and Statistical Evidence for Selection Effects from Gravitational Amplification. *F. Hammer & O. Le Fèvre.* 357, 38, 111-E4 (1990)

HAMMER, PHILIP D. Energy Levels of Zirconium Oxide. *Sumner P. Davis & Philip D. Hammer.* 332, 1090, 136-D6 (1988)

HAMMERSCHLAG-HENSBERGE, G. Orbital Variability in the Wind of the Massive X-Ray Binary HD 153919/4U 1700–37. *G. Hammerschlag-Hensberge, Ian D. Howarth, & Timothy R. Kallman.* 352, 698, 59-F1 (1990)

HAMMOND, GORDON L. Abundances in the Hot DZ Star CBS 127: How Efficient Is Hydrogen Screening? *Edward M. Sion, Gordon L. Hammond, R. Mark Wagner, Sumner G. Starrfield, & James Liebert.* 362, 691, 179-C11 (1990)

HAMUY, M. Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

IRAS 18059–3211: Optically Known as "Gomez's Hamburger": Erratum. *M. T. Ruiz, V. Blanco, J. Maza, S. Heathcote, A. Phillips, K. Kawara, C. Anguita, M. Hamuy, & A. Gómez.* 320, L157, 121-F14 (1987) (Orig. paper in 316, L21, 56-B10 (1987))

HAMUY, M. A. Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

HAMUY, MARIO. IRAS 18059–3211: Optically Known as "Gomez's Hamburger." *María Teresa Ruiz, Victor Blanco, José Maza, Steve Heathcote, Andrew Phillips, Kimiaki Kawara, Claudio Anguita, Mario Hamuy, & Arturo Gómez.* 316, L21, 56-B10 (1987)

HAN, INWOO. A Study of Upgren 1. *George Gatewood, Joost Kiewiet de Jonge, Michael Castelaz, Inwoo Han, Timothy Persinger, James Prosser, Thomas Reiland, & John Stein.* 332, 917, 134-D12 (1988)

MAP–based Trigonometric Parallaxes of Open Clusters: The Pleiades. *George Gatewood, Michael Castelaz, Inwoo Han, Timothy Persinger, John Stein, Bruce Stephenson, & William Tangren.* 364, 114, 195-D5 (1990)

HAN, MINGSHENG. Nonlinearity of the Tully-Fisher Relation. *Jeremy Mould, Mingsheng Han, & Greg Bothun.* 347, 112, 182-E1 (1989)

The Velocity Field in the Local Supercluster. *Mingsheng Han & Jeremy Mould.* 360, 448, 151-G11 (1990)

HAN, XIAO HONG. Transient Radio Emission from the X-Ray Nova ASM 2000+25. *R. M. Hjellming, T. A. Calovini, Xiao Hong Han, & F. A. Córdova.* 335, L75, 185-D10 (1988)

HANAWA, T. Nonlinear Parker Instability of Isolated Magnetic Flux in a Plasma. *K. Shibata, T. Tajima, R. Matsumoto, T. Horiuchi, T. Hanawa, R. Rosner, & Y. Uchida.* 338, 471, 38-F6 (1989)

HANAWA, TOMOYUKI. Thermal Evolution of Accreting Neutron Stars. II. Long X-Ray Bursts as a Probe into the Interior. *Masayuki Y. Fujimoto, Tomoyuki Hanawa, Icko Iben, Jr., & Martin B. Richardson.* 315, 198, 42-B9 (1987)

The Rapid Burster: A Weakly Magnetized Neutron Star. *Tomoyuki Hanawa, Kouichi Hirotani, & Nobuyuki Kawai.* 336, 920, 14-A1 (1989)

X-Ray Emission from Accretion Disks in Low-Mass X-Ray Binaries. *Tomoyuki Hanawa.* 341, 948, 97-A1 (1989)

An Interpretation of X-Ray Spectra of Type II Bursts from the "Rapid Burster": Comptonization Due to Accretion Flow. *Kouichi Hirotani, Tomoyuki Hanawa, & Nobuyuki Kawai.* 355, 577, 95-F11 (1990)

A Model for the High-Energy Power-Law Component Observed in the X-Ray Spectra of Low-Mass X-Ray Binaries. *Tomoyuki Hanawa.* 355, 585, 95-G6 (1990)

Nonlinear Parker Instability in Nonuniform Gravitational Fields: Nonlinear Oscillations and Shock Waves. *Ryoji Matsumoto, Toshiro Horiuchi, Tomoyuki Hanawa, & Kazunari Shibata.* 356, 259, 102-C8 (1990)

HANDA, K. Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

HANDA, T. Flux Densities of Ultracompact H II Regions at 7 Millimeters. *Douglas O. S. Wood, T. Handa, Y. Fukui, E. Churchwell, Y. Sofue, & T. Iwata.* 326, 884, 43-C2 (1988)

HANDA, TOSHIHIRO. Observations of Molecular and Atomic Clouds in M31. *Charles J. Lada, Michael Margulis, Yoshiaki Sofue, Naomasa Nakai, & Toshihiro Handa.* 328, 143, 63-E7 (1988)

HANES, DAVID A. Metallicity Determinations for Globular Clusters through Spectrophotometry of Their Intergrated Light. *Jean P. Brodie & David A. Hanes.* 300, 258, 3-G3 (1986)

The Metallicity of Globular Clusters Associated with the Giant Elliptical Galaxy NGC 4486 (M87). *David A. Hanes & Jean P. Brodie.* 300, 279, 4-B7 (1986)

Globular Clusters in Galaxies beyond the Local Group. VII. The S0 Galaxy NGC 3115. *David A. Hanes & William E. Harris.* 304, 599, 62-E4 (1986)

Globular Clusters in Galaxies beyond the Local Group. VIII. Elliptical Galaxies in the Fornax Cluster. *David A. Hanes & William E. Harris.* 309, 564, 127-D1 (1986)

HANIFF, CHRISTOPHER A. Jet Precession in Active Galaxies High-Resolution Emission-Line Imaging of Seyfert Galaxies. I. Observations. *Nico Roos, Christopher A. Haniff, Andrew S. Wilson, & Martin J. Ward.* 334, 104, 155-D1 (1988)

High-Resolution Emission-Line Imaging of Seyfert Galaxies. II. Evidence for Anisotropic Ionizing Radiation. *Andrew S. Wilson, Martin J. Ward, & Christopher A. Haniff.* 334, 121, 155-E4 (1988)

HANKINS, D. J. Discovery of Broad-Band Optical Circular Polarization in Alpha Leonis. *G. D. Henson, J. C. Kemp, D. J. Kraus, & D. J. Hankins.* 340, L65, 83-C5 (1989)

HANKINS, T. H. Null Transition Times, Quantized Drift Modes, and No Memory across Nulls for PSR 1944+17. *W. T. S. Deich, J. M. Cordes, T. H. Hankins, & J. M. Rankin.* 300, 540, 9-A10 (1986)

Frequency Dependence of the Main Pulse to Interpulse Separation for Seven Pulsars. *T. H. Hankins & L. A. Fowler.* 304, 256, 56-F8 (1986)

Frequency Dependence of Pulsar Profiles. *T. H. Hankins & B. J. Rickett.* 311, 684, 155-C5 (1986)

Improved Dispersion Measures for 17 Pulsars. *T. H. Hankins.* 312, 276, 3-G13 (1987)

Improved Timing of the Millisecond Pulsar PSR 1937+21 Using Real-Time Coherent Dedispersion. *T. H. Hankins, Daniel R. Stinebring, & Lloyd A. Rawley.* 315, 149, 41-F1 (1987)

The Drifting Subpulse Phenomenon Observed in Three Pulsars with Triple Profiles. *T. H. Hankins & A. Wolszczan.* 318, 410, 83-D8 (1987)

The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

HANNER, M. S. The Infrared Spectrum of Comet Bradfield (1987s) and the Silicate Emission Feature. *M. S. Hanner, R. L. Newburn, R. D. Gehrz, T. Harrison, E. P. Ney, & T. L. Hayward.* 348, 312, 4-G9 (1990)

HANSEL, D. On the Closure of the Hierarchy of Galaxy Correlation Function in Phase Space. *D. Hansel, F. R. Bouchet, R. Pellat, & A. Ramani.* 310, 23, 132-C5 (1986)

HANSEN, C. J. Evolutionary Period Changes in Variable Helium-rich White Dwarfs. *Steven D. Kawaler, D. E. Winget, Icko Iben, Jr., & C. J. Hansen.* 302, 530, 36-C12 (1986)

Oscillation Spectra of Neutron Stars with Strong Magnetic Fields. *B. W. Carroll, E. G. Zweibel, C. J. Hansen, P. N. McDermott, M. P. Savedoff, J. H. Thomas, & H. M. Van Horn.* 305, 767, 77-C9 (1986)

The Helium Shell Game: Nonradial *g*-Mode Instabilities in Hydrogen-deficient Planetary Nebula Nuclei. *Steven D. Kawaler, D. E. Winget, C. J. Hansen, & Icko Iben, Jr.* 306, L41, 86-C13 (1986)

Temperatures for Hot and Pulsating DB White Dwarfs Obtained with the *IUE* Observatory. *James Liebert, F. Wesemael, C. J. Hansen, G. Fontaine, Harry L. Shipman, Edward M. Sion, D. E. Winget, & Richard F. Green.* 309, 241, 122-E7 (1986)

An Independent Method for Determining the Age of the Universe. *D. E. Winget, C. J. Hansen, James Liebert, H. M. Van Horn, G. Fontaine, R. E. Nather, S. O. Kepler, & D. Q. Lamb.* 315, L77, 49-B1 (1987)

Nonradial Oscillations of Neutron Stars. *P. N. McDermott, H. M. Van Horn, & C. J. Hansen.* 325, 725, 28-D13 (1988)

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

The Whole Earth Telescope: A New Astronomical Instrument. *R. E. Nather, D. E. Winget, J. C. Clemens, C. J. Hansen, & B. P. Hine.* 361, 309, 160-F11 (1990)

HANSEN, CARL J. On the Possibility of Detecting Weak Magnetic Fields in Variable White Dwarfs. *Philip W. Jones, W. Dean Pesnell, Carl J. Hansen, & Steven D. Kawaler.* 336, 403, 6-B12 (1989)

HANSON, C. G. Hard X-Ray Observations of Cygnus X-1 with the MISO Telescope. *F. Perotti, A. Della Ventura, G. Villa, L. Bassani, R. C. Butler, G. Di Cocco, R. E. Baker, A. J. Dean, & C. G. Hanson.* 300, 297, 4-C12 (1986)

HANSON, MARGARET MURRAY. NGC 1058: Gas Motions in an Extended, Quiescent Spiral Disk. *John M. Dickey, Margaret Murray Hanson, & George Helou.* 352, 522, 57-E5 (1990)

The Relative Spatial Distributions of High- and Low-Luminosity Galaxies toward Coma. *John J. Salzer, Margaret Murray Hanson, & Giuseppe Gavazzi.* 353, 39, 62-E7 (1990)

HANTZIOS, PANAYIOTIS A. Time-resolved Spectrophotometry of the Cataclysmic Variable EX Hydrae. *Ronald H. Kaitchuck, Panayiotis A. Hantzios, Panagiotis Kakaletris, R. Kent Honeycutt, & Eric M. Schlegel.* 317, 765, 74-D3 (1987)

Spectroscopy of the Dwarf Nova RX Andromedae from Quiescence to Eruption. *Ronald H. Kaitchuck, Cathy S. Mansperger, & Panayiotis A. Hantzios.* 330, 305, 93-D11 (1988)

HARA, T. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

HARDEBECK, H. E. A Limit on the Anisotropy of the Microwave Background Radiation on Arcminute Scales. *A. C. S. Readhead, C. R. Lawrence, S. T. Myers, W. L. W. Sargent, H. E. Hardebeck, & A. T. Moffet.* 346, 566, 174-E1 (1989)

HARDEE, PHILIP E. Helical Twisting on an Adiabatically Expanding Jet. II. Spatial Growth. *Philip E. Hardee.* 303, 111, 42-C2 (1986)

Spatial Stability of Jets: The Nonaxisymmetric Fundamental and Reflection Modes. *Philip E. Hardee.* 313, 607, 23-D6 (1987)

Spatial Stability of Relativistic Jets: Application to 3C 345. *Philip E. Hardee.* 318, 78, 79-F12 (1987)

Spatial Stability of the Slab Jet. I. Linearized Stability Analysis. *Philip E. Hardee & Michael L. Norman.* 334, 70, 154-G4 (1988)

Spatial Stability of the Slab Jet. II. Numerical Simulations. *Michael L. Norman & Philip E. Hardee.* 334, 80, 155-A9 (1988)

High-Resolution, High Dynamic Range VLA Images of the M87 Jet at 2 Centimeters. *Frazer N. Owen, Philip E. Hardee, & T. J. Cornwell.* 340, 698, 77-B1 (1989)

The Role of Oblique Reflection Shocks in Astrophysical Jets. *Philip E. Hardee & Michael L. Norman.* 342, 680, 111-A4 (1989)

Asymmetric Morphology of the Propagating Jet. *Philip E. Hardee & Michael L. Norman.* 365, 134, 207-F5 (1990)

HARDING, A. K. Effects of High-Energy Neutrino Production and Interactions on Stars in Close X-Ray Binaries. *T. K. Gaisser, F. W. Stecker, A. K. Harding, & J. J. Barnard.* 309, 674, 128-F1 (1986)

Cascade Model of Gamma-Ray Bursts. *P. A. Sturrock, A. K. Harding, & J. K. Daugherty.* 346, 950, 179-A1 (1989)

HARDING, ALICE K. One-Photon Pair Annihilation in Magnetized Relativistic Plasmas. *Alice K. Harding.* 300, 167, 2-G7 (1986)

One-Photon Pair Annihilation in Magnetized Relativistic Plasmas: Corrigendum. *Alice K. Harding.* 300, 462, 6-B4 (1986) (Orig. paper in 300, 167, 2-G7 (1986))

Compton Scattering in Strong Magnetic Fields. *Joseph K. Daugherty & Alice K. Harding.* 309, 362, 123-G7 (1986)

Quantized Synchrotron Radiation in Strong Magnetic Fields. *Alice K. Harding & Robert Preece.* 319, 939, 105-C1 (1987)

Comptonization of Thermal Photons by Relativistic Electron Beams. *Joseph K. Daugherty & Alice K. Harding.* 336, 861, 13-B11 (1989)

Cyclotron Scattering Lines in Gamma-Ray Burst Spectra. *Alice K. Harding & Robert D. Preece.* 338, L21, 40-D4 (1989)

Signatures of Particle Acceleration at SN 1987A. *T. K. Gaisser, Alice K. Harding, & Todor Stanev.* 345, 423, 154-D4 (1989)

Nonthermal Synchrotron Radiation and Pair Annihilation in Gamma-Ray Bursts. *Robert D. Preece & Alice K. Harding.* 347, 1128, 197-E13 (1989)

A Chaotic Attractor in Timing Noise from the Vela Pulsar? *Alice K. Harding, Troy Shinbrot, & James M. Cordes.* 353, 588, 71-C1 (1990)

Acceleration by Pulsar Winds in Binary Systems. *Alice K. Harding & T. K. Gaisser.* 358, 561, 130-E1 (1990)

HARDING, MARGARET E. A New Wide-Separation Gravitational Lens Candidate. *Paul C. Hewett, Rachel L. Webster, Margaret E. Harding, Robert J. Jedrzejewski, Craig B. Foltz, Frederic H. Chaffee, Michael J. Irwin, & Olivier Le Fèvre.* 346, L61, 181-B12 (1989)

HARDY, EDUARDO. Detection and Measurement of the Wing-Ford Band in the Near-Infrared Spectra of Elliptical Galaxies. *Eduardo Hardy & Jean Couture.* 325, L29, 31-C6 (1988)

The Kinematics of the Small Magellanic Cloud from Its Field Carbon Stars. *Eduardo Hardy, Nicholas B. Suntzeff, & Marc Azzopardi.* 344, 210, 135-E10 (1989)

HARKNESS, R. P. Type Ib Supernovae 1983n and 1985f: Oxygen-rich Late Time Spectra. *C. M. Gaskell, E. Cappellaro, H. L. Dinerstein, D. R. Garnett, R. P. Harkness, & J. C. Wheeler.* 306, L77, 93-G11 (1986)

Supernovae 1983i and 1983v: Evidence for Abundance Variations in Type Ib Supernovae. *J. C. Wheeler, R. P. Harkness, E. S. Barker, A. L. Cochran, & D. Wills.* 313, L69, 27-C11 (1987)

The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault.* 317, 355, 67-F14 (1987)

HARLAN, EUGENE. The Incidence of Close Binaries among Stars of Low Mass: Astrophysical Binaries. *Arthur Young, Sina Sadjadi, & Eugene Harlan.* 314, 272, 31-B1 (1987)

A Study of Excess Hα Emission in Chromospherically Active M Dwarf Stars. *Arthur Young, Andrew Skumanich, John R. Stauffer, Bernard W. Bopp, & Eugene Harlan.* 344, 427, 138-C5 (1989)

HARLANDER, J. Hα Scans of the Intergalactic H I Cloud in Leo. *R. J. Reynolds, K. Magee, F. L. Roesler, F. Scherb, & J. Harlander.* 309, L9, 125-D2 (1986)

HARMANEC, P. Rapid Line-Profile Variations of the Be Star ζ Tauri. *S. Yang, G. A. H. Walker, G. M. Hill, & P. Harmanec.* 74, 595, 38-E11 (1990)

HARMON, J. K. Propagation Observations of the Solar Wind near the Sun. *W. A. Coles & J. K. Harmon.* 337, 1023, 31-D10 (1989)

Radar Observations of Comet IRAS-Araki-Alcock 1983d. *J. K. Harmon, D. B. Campbell, A. A. Hine, I. I. Shapiro, & B. G. Marsden.* 338, 1071, 47-A6 (1989)

Radar Observations of Comet Halley. *D. B. Campbell, J. K. Harmon, & I. I. Shapiro.* 338, 1094, 47-C1 (1989)

HARMS, VOLKER. Alpha-Burning of ^{14}O. *Michael Wiescher, Volker Harms, Joachim Görres, Friedrich-Karl Thielemann, & Lawrence J. Rybarcyk.* 316, 162, 51-F10 (1987)

HARNDEN, F. R., JR. X-Ray Spectra and the Rotation-Activity Connection of RS Canum Venaticorum Binaries. *P. Majer, J. H. M. M. Schmitt, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 300, 360, 5-A5 (1986)

Modeling of Coronal X-Ray Emission from Active Cool Stars. I. Hyades Cluster. *Robert A. Stern, Spiro K. Antiochos, & F. R. Harnden, Jr.* 305, 417, 71-F8 (1986)

Einstein Observatory Survey of X-Ray Emission from Solar-Type Stars: The Late F and G Dwarf Stars. *A. Maggio, S. Sciortino, G. S. Vaiana, P. Majer, J. Bookbinder, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 315, 687, 48-B8 (1987)

X-Ray Observations of Solar Flares with the *Einstein* Observatory. *J. H. M. M. Schmitt, F. R. Harnden, Jr., & H. Fink.* 322, 1023, 151-B6 (1987)

The *Einstein Observatory* Survey of Stars in the Hyades Cluster Region. *G. Micela, S. Sciortino, G. S. Vaiana, J. H. M. M. Schmitt, R. A. Stern, F. R. Harnden, Jr., & R. Rosner.* 325, 798, 29-C8 (1988)

Variability of X-Ray Emission from OB Stars. *A. Collura, S. Sciortino, S. Serio, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 338, 296, 36-E7 (1989)

The *Einstein X-Ray Observatory* Catalog of O-Type Stars. *T. Chlebowski, F. R. Harnden, Jr., & S. Sciortino.* 341, 427, 89-B4 (1989)

Einstein Observatory Magnitude-limited X-Ray Survey of Late-Type Giant and Supergiant Stars. *A. Maggio, G. S. Vaiana, B. M. Haisch, R. A. Stern, J. Bookbinder, F. R. Harnden, Jr., & R. Rosner.* 348, 253, 4-B3 (1990)

X-Ray Studies of Coeval Star Samples. II. The Pleiades Cluster as Observed with the *Einstein Observatory*. *G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., R. Rosner, & J. H. M. M. Schmitt.* 348, 557, 9-E6 (1990)

X-Ray Studies of Coeval Star Samples. III. X-Ray Emission in the Ursa Major Stream. *J. H. M. M. Schmitt, G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 351, 492, 46-B11 (1990)

Relationship between Optical and X-Ray Properties of O-Type Stars Surveyed with the *Einstein Observatory*. *S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., M. Ramella, C. Morossi, R. Rosner, & J. H. M. M. Schmitt.* 361, 621, 165-F11 (1990)

Einstein Observatory Coronal Temperatures of Late-Type Stars. *J. H. M. M. Schmitt, A. Collura, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 365, 704, 217-A9 (1990)

HARPAZ, A. The Effect of Coulomb Interactions on the Helium Flash. *A. Harpaz & A. Kovetz.* 331, 898, 118-F10 (1988)

HARPAZ, AMOS. Mass Accretion on a Collapsed Star. *Amos Harpaz & Nathan Rosen.* 312, 646, 10-A7 (1987)

Evolution of a 0.7 $M_\odot$ Red Giant. *Amos Harpaz, Attay Kovetz, & Giora Shaviv.* 323, 154, 154-F13 (1987)

Stability of a Collapsed Star in Bimetric General Relativity. *Amos Harpaz & Nathan Rosen.* 355, 210, 89-E1 (1990)

HARPER, D. A. Far-Infrared Observations of Sagittarius B2: Reconsideration of Source Structure. *Harley A. Thronson, Jr., & D. A. Harper.* 300, 396, 5-D4 (1986)

Dust Reradiation from M43. *J. Smith, D. A. Harper, & R. F. Loewenstein.* 314, 76, 28-G7 (1987)

Star Formation in the Magellanic Irregular Galaxy NGC 4449. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, D. A. Harper, & R. Decher.* 317, 180, 66-A3 (1987)

The Submillimeter Spectral Break in Seyfert Galaxies. *G. Engargiola, D. A. Harper, Martin Elvis, & S. P. Willner.* 332, L19, 129-C9 (1988)

The Magellanic Irregular Galaxy NGC 4214: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, Matthew Greenhouse, & D. A. Harper.* 334, 605, 162-A10 (1988)

Far-Infrared and Submillimeter Photometric Mapping of Spiral Galaxies in the Virgo Cluster. *A. A. Stark, J. A. Davidson, S. Platt, D. A. Harper, R. Pernic, R. Loewenstein, G. Engargiola, & S. Casey.* 337, 650, 27-B1 (1989)

The Interacting Galaxy Pair NGC 4485 and NGC 4490: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, Sean Casey, William B. Latter, & D. A. Harper.* 339, 803, 61-F7 (1989)

Star Formation and the Interstellar Medium in Two Peculiar, Nonspiral Galaxies: NGC 1569 and NGC 3593. *Deidre A. Hunter, Harley A. Thronson, Jr., Sean Casey, & D. A. Harper.* 341, 697, 94-A1 (1989)

Near-Infrared Images of NGC 1068: Bar-driven Star Formation and the Circumnuclear Composition. *Harley A. Thronson, Jr., Mark Hereld, Steven Majewski, Matthew Greenhouse, Paul Johnson, Earl Spillar, C. E. Woodward, D. A. Harper, & Bernard J. Rauscher.* 343, 158, 120-B3 (1989)

Submillimeter Continuum Emission from Galaxies: Star Formation and the Interstellar Medium in the Local Group Dwarf IC 10. *Harley A. Thronson, Jr., Deidre A. Hunter, Sean Casey, & D. A. Harper.* 355, 94, 88-B9 (1990)

VY Monocerotis and the IC 446 Region: Far-Infrared and Submillimeter Images of a Massive Young Stellar Object and Its Environment. *S. C. Casey & D. A. Harper.* 362, 663, 179-A6 (1990)

HARPER, G. M. Chromospheres of Two Red Giants in NGC 6752. *A. K. Dupree, G. M. Harper, L. Hartmann, Carole Jordan, A. W. Rodgers, & Graeme H. Smith.* 361, L9, 161-D4 (1990)

HARRINGTON, J. P. The Planetary Nebula NGC 3918. *R. E. S. Clegg, J. P. Harrington, M. J. Barlow, & J. R. Walsh.* 314, 551, 35-E7 (1987)

HARRINGTON, J. PATRICK. Dust in the Emission-Line Gas of the Seyfert 2 Galaxy Markarian 3. *S. B. Kraemer & J. Patrick Harrington.* 307, 478, 102-A1 (1986)

Photoionization in the Halo of the Galaxy. *Joel N. Bregman & J. Patrick Harrington.* 309, 833, 130-D6 (1986)

HARRINGTON, ROBERT. On the Nature of the Dwarf Carbon Star G77-61. *D. S. P. Dearborn, James Liebert, Marc Aaronson, Conard C. Dahn, Robert Harrington, Jeremy Mould, & Jesse L. Greenstein.* 300, 314, 4-E1 (1986)

HARRIS, A. I. Warm Dense Gas in Luminous Protostellar Regions: A Submillimeter and Far-Infrared CO Line Study. *D. T. Jaffe, A. I. Harris, & R. Genzel.* 316, 231, 52-E1 (1987)

Aperture Synthesis Observations of the Circumnuclear Ring in the Galactic Center. *R. Güsten, R. Genzel, M. C. H. Wright, D. T. Jaffe, J. Stutzki, & A. I. Harris.* 318, 124, 80-C8 (1987)

Submillimeter and Far-Infrared Spectroscopy of M17 and S106: UV-heated, Quiescent Molecular Gas? *A. I. Harris, J. Stutzki, R. Genzel, J. B. Lugten, G. J. Stacey, & D. T. Jaffe.* 322, L49, 145-D6 (1987)

First Detection of HCN $J = 9$–8 (797 GHz) Line Emission: Very High Densities in the Orion Core. *J. Stutzki, R. Genzel, A. I. Harris, J. Herman, & D. T. Jaffe.* 330, L125, 105-A9 (1988)

Submillimeter and Far-Infrared Line Observations of M17 SW: A Clumpy Molecular Cloud Penetrated by Ultraviolet Radiation. *J. Stutzki, G. J. Stacey, R. Genzel, A. I. Harris, D. T. Jaffe, & J. B. Lugten.* 332, 379, 127-C6 (1988)

High Spatial Resolution Observations of Neutral Atomic Carbon in the Molecular Clouds M17 and W51. *R. Genzel, A. I. Harris, D. T. Jaffe, & J. Stutzki.* 332, 1049, 136-A7 (1988)

First Detection of SO_2 and CH_3OH Emission and One Unidentified Line near 800 GHz. *J. Stutzki, R. Genzel, U. U. Graf, A. I. Harris, & D. T. Jaffe.* 340, L37, 75-F5 (1989)

Strong, Spatially Extended CO 7→6 Emission from Luminous Cloud Cores: W52 and DR 21. *D. T. Jaffe, R. Genzel, A. I. Harris, J. B. Lugten, G. J. Stacey, & J. Stutzki.* 344, 265, 136-C10 (1989)

Warm Gas and Spatial Variations of Molecular Excitation in the Nuclear Region of IC 342. *A. Eckart, D. Downes, R. Genzel, A. I. Harris, D. T. Jaffe, & W. Wild.* 348, 434, 8-A3 (1990)

Warm Dense Gas in the Reflection Nebula NGC 2023. *D. T. Jaffe, R. Genzel, A. I. Harris, J. E. Howe, G. J. Stacey, & J. Stutzki.* 353, 193, 64-E1 (1990)

Far-Infrared, Submillimeter, and Millimeter Spectroscopy of the Galactic Center: Radio Arc and +20/+50 Kilometer per Second Clouds. *R. Genzel, G. J. Stacey, A. I. Harris, C. H. Townes, N. Geis, U. U. Graf, A. Poglitsch, & J. Stutzki.* 356, 160, 101-A9 (1990)

Detection of an Isotopic Short Submillimeter CO Line: Column Densities of Warm Gas in Molecular Clouds. *U. U. Graf, R. Genzel, A. I. Harris, R. E. Hills, A. P. G. Russell, & J. Stutzki.* 358, L49, 133-C8 (1990)

HARRIS, A. W. A Survey of Interstellar Sulfur Abundance and Implications for P II Oscillator Strengths. *A. W. Harris & J. M. Mas Hesse.* 308, 240, 110-F5 (1986)

Single Gaussian Curve of Growth Abundance Determinations from Ultraviolet Interstellar Absorption-Line Data. *A. W. Harris.* 322, 368, 141-G9 (1987)

The Ultraviolet Calibration of the *Hubble Space Telescope*. IV. Absolute *IUE* Fluxes of *Hubble Space Telescope* Standard Stars. *R. C. Bohlin, A. W. Harris, A. V. Holm, & C. Gry.* 73, 413, 24-B1 (1990)

HARRIS, C. J. The Solar Boron Abundance. *R. C. M. Learner & C. J. Harris.* 320, 926, 120-A3 (1987)

HARRIS, CRAIG C. Features in Saturn's Rings. *Larry W. Esposito, Craig C. Harris, & Karen E. Simmons.* 63, 749, 11-G1 (1987)

HARRIS, D. E. X-Rays from the Radio Halo of M87. *E. D. Feigelson, P. A. D. Wood, E. J. Schreier, D. E. Harris, & M. J. Reid.* 312, 101, 2-B5 (1987)

X-Ray Emission Associated with the Jet in 3C 273. *D. E. Harris & C. P. Stern.* 313, 136, 16-D14 (1987)

An X-Ray and Radio Study of Steep-Spectrum Radio Sources. I. Four Fields from the Clark Lake Observatory 26 MHz Survey. *D. E. Harris, P. E. Dewdney, C. H. Costain, I. McHardy, & A. G. Willis.* 325, 610, 27-C2 (1988)

HARRIS, GRETCHEN L. H. Evidence for Unusual Dynamical Effects in the Halo of NGC 5128 (Centaurus A). *James E. Hesser, Hugh C. Harris, & Gretchen L. H. Harris.* 303, L51, 53-D1 (1986)

HARRIS, HUGH C. Evidence for Unusual Dynamical Effects in the Halo of NGC 5128 (Centaurus A). *James E. Hesser, Hugh C. Harris, & Gretchen L. H. Harris.* 303, L51, 53-D1 (1986)

Blue Straggler Stars in the Globular Cluster NGC 5466. *James M. Nemec & Hugh C. Harris.* 316, 172, 51-G7 (1987)

HARRIS, M. J. Measurement of the 0.3–8.5 MeV Galactic Gamma-Ray Spectrum from the Galactic Center Direction. *M. J. Harris, G. H. Share, M. D. Leising, R. L. Kinzer, & D. C. Messina.* 362, 135, 170-G1 (1990)

HARRIS, MICHAEL J. Oxygen Isotopic Abundances in Evolved Stars. III. 26 Carbon Stars. *Michael J. Harris, David L. Lambert, Kenneth H. Hinkle, Bengt Gustafsson, & Kjell Eriksson.* 316, 294, 53-B14 (1987)

A Search for $^{14}C^{16}O$ in the Atmospheres of Evolved Stars. *Michael J. Harris & David L. Lambert.* 318, 868, 90-D12 (1987)

Oxygen Isotopic Abundances in Evolved Stars. IV. Five K Giants. *Michael J. Harris, David L. Lambert, & Verne V. Smith.* 325, 768, 29-A5 (1988)

HARRIS, S. Candidate Solar-Type Protostars in Nearby Molecular Cloud Cores. *C. A. Beichman, P. C. Myers, J. P. Emerson, S. Harris, R. Mathieu, P. J. Benson, & R. E. Jennings.* 307, 337, 98-F13 (1986)

Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

HARRIS, WILLIAM E. Globular Clusters in Galaxies beyond the Local Group. VII. The S0 Galaxy NGC 3115. *David A. Hanes & William E. Harris.* 304, 599, 62-E4 (1986)

Mass Functions for Globular Cluster Main Sequences Based on CCD Photometry and Stellar Models. *Robert D. McClure, Don A. VandenBerg, Graeme H. Smith, Gregory G. Fahlman, Harvey B. Richer, James E. Hesser, William E. Harris, Peter B. Stetson, & R. A. Bell.* 307, L49, 107-B10 (1986)

Globular Clusters in Galaxies beyond the Local Group. VIII. Elliptical Galaxies in the Fornax Cluster. *David A. Hanes & William E. Harris.* 309, 564, 127-D1 (1986)

Globular Cluster Systems in the Supergiant Ellipticals of the Coma Cluster. *William E. Harris.* 315, L29, 45-C6 (1987)

A Globular Cluster System Surrounding the cD Galaxy NGC 6166. *C. J. Pritchet & William E. Harris.* 355, 410, 93-E1 (1990)

BVI Photometry of Globular Clusters in M87. *Jean Couture, William E. Harris, & J. W. B. Allwright.* 73, 671, 27-D9 (1990)

HARRISON, R. A. Spectral Line Profiles of Fe XXI 1354.1 Å from the *Solar Maximum Mission*. *H. E. Mason, R. A. Shine, J. B. Gurman, & R. A. Harrison.* 309, 435, 124-F2 (1986)

HARRISON, RICHARD A. The Solar-Stellar Connection: The Relationship between Flaring Rates, Flare Power, and Quiescent X-Ray Background. *Richard A. Harrison, Gillian Pearce, & Andrew Skumanich.* 332, 1058, 136-B2 (1988)

Active Region Coronal Loops: Structure and Variability. *Bernhard M. Haisch, Keith T. Strong, Richard A. Harrison, & G. A. Gary.* 68, 371, 28-E1 (1988)

HARRISON, T. The Infrared Spectrum of Comet Bradfield (1987s) and the Silicate Emission Feature. *M. S. Hanner, R. L. Newburn, R. D. Gehrz, T. Harrison, E. P. Ney, & T. L. Hayward.* 348, 312, 4-G9 (1990)

HARRISON, T. E. PW Vulpeculae: A Dust-poor DQ Herculis? *R. D. Gehrz, T. E. Harrison, E. P. Ney, K. Matthews, G. Neugebauer, J. Elias, G. L. Grasdalen, & J. A. Hackwell.* 329, 894, 86-G6 (1988)

HARRISON, THOMAS E. Photometry of Variable AFGL Sources. *Terry Jay Jones, C. O. Bryja, Robert D. Gehrz, Thomas E. Harrison, Joni J. Johnson, Dimitri I. Klebe, & Geoffrey F. Lawrence.* 74, 785, 41-E11 (1990)

HARTIG, G. F. Cosmic Ultraviolet Background Radiation and Zodiacal Light. *P. D. Tennyson, R. C. Henry, P. D. Feldman, & G. F. Hartig.* 330, 435, 95-B1 (1988)

HARTIG, GEORGE F. The Emission-Line Regions in Broad Absorption Line Quasars. *George F. Hartig & Jack A. Baldwin.* 302, 64, 28-F3 (1986)

HARTIGAN, PATRICK. Radiative Bow Shock Models of Herbig-Haro Objects. *Patrick Hartigan, John Raymond, & Lee Hartmann.* 316, 323, 53-D14 (1987)

Improved Bow Shock Models for Herbig-Haro Objects: Application to HH 2A. *John C. Raymond, Patrick Hartigan, & Lee Hartmann.* 326, 323, 35-F8 (1988)

The Visibility of the Mach Disk and the Bow Shock of a Stellar Jet. *Patrick Hartigan.* 339, 987, 64-A1 (1989)

How to Unveil a T Tauri Star. *Patrick Hartigan, Lee Hartmann, Scott Kenyon, Robert Hewett, & John Stauffer.* 70, 899, 32-D1 (1989)

Molecular Hydrogen and Optical Images of HH 7–11. *Patrick Hartigan, Salvador Curiel, & John Raymond.* 347, L31, 189-D9 (1989)

Correlations of Optical and Infrared Excesses in T Tauri Stars. *Patrick Hartigan, Lee Hartmann, Scott J. Kenyon, Stephen E. Strom, & Michael F. Skrutskie.* 354, L25, 80-C11 (1990)

Observations and Shock Models of the Jet and Herbig-Haro Objects HH 46/47. *Patrick Hartigan, John Raymond, & John Meaburn.* 362, 624, 178-E1 (1990)

HARTIGAN, PATRICK M. A Detailed Study of the Lynds 1551 Star Formation Region. *John T. Stocke, Patrick M. Hartigan, Stephen E. Strom, Karen M. Strom, Edwin R. Anderson, Lee W. Hartmann, & Scott J. Kenyon.* 68, 229, 26-D1 (1988)

HARTMANN, D. Nucleosynthesis in Neutron-rich Supernova Ejecta: Erratum. *D. Hartmann, S. E. Woosley, & M. F. El Eid.* 307, 414, 99-E10 (1986) (Orig. paper in 297, 837, 110-G1 (1985))
HARTMANN, D. H. The ν-Process. *S. E. Woosley, D. H. Hartmann, R. D. Hoffman, & W. C. Haxton.* 356, 272, 102-D8 (1990)
HARTMANN, DIETER. FY Aquilae and the Gamma-Ray Burst Event of 1979 March 31. *Dieter Hartmann & Richard W. Pogge.* 318, 363, 82-G4 (1987)
Thermal Cyclotron Reprocessing of Gamma-Ray Bursts: Theory and Model Spectra. *Dieter Hartmann, S. E. Woosley, & Jonathan Arons.* 332, 777, 133-A8 (1988)
OTS 1809+314 and the Gamma-Ray Burst GB 790325b. *Dieter Hartmann, Richard W. Pogge, Kevin Hurley, Frederick J. Vrba, & Mark C. Jennings.* 336, 889, 13-E6 (1989)
Angular Clustering Properties of Gamma-Ray Bursts and Quantitative Constraints on Their Distances. *Dieter Hartmann & George R. Blumenthal.* 342, 521, 107-B7 (1989)
Hard Emission at Late Times from SN 1987A. *S. E. Woosley, Philip A. Pinto, & Dieter Hartmann.* 346, 395, 171-A6 (1989)
The Angular Distribution of Gamma-Ray Bursts. *Dieter Hartmann & Richard I. Epstein.* 346, 960, 179-B1 (1989)
Galactic Neutron Stars and Gamma-Ray Bursts. *Dieter Hartmann, Richard I. Epstein, & S. E. Woosley.* 348, 625, 10-D6 (1990)
HARTMANN, L. Rotational and Radial Velocities of T Tauri Stars. *L. Hartmann, R. Hewett, S. Stahler, & R. D. Mathieu.* 309, 275, 122-G14 (1986)
Mass Loss from FU Orionis Objects. *Ken Croswell, L. Hartmann, & E. H. Avrett.* 312, 227, 3-D6 (1987)
Further Evidence for Disk Accretion in FU Orionis Objects. *L. Hartmann & S. J. Kenyon.* 312, 243, 3-E8 (1987)
Periodic Photospheric and Chromospheric Modulation in Alpha Orionis (Betelgeuse). *A. K. Dupree, S. L. Baliunas, E. F. Guinan, L. Hartmann, G. E. Nassiopoulos, & G. Sonneborn.* 317, L85, 78-D4 (1987)
High Spectral Resolution Infrared Observations of V1057 Cygni. *L. Hartmann & S. J. Kenyon.* 322, 393, 142-B6 (1987)
Spectral Energy Distributions of T Tauri Stars: Disk Flaring and Limits on Accretion. *S. J. Kenyon & L. Hartmann.* 323, 714, 162-E3 (1987)
Accretion Disk Models for FU Orionis and V1057 Cygni: Detailed Comparisons between Observations and Theory. *S. J. Kenyon, L. Hartmann, & R. Hewett.* 325, 231, 21-F2 (1988)
Wind-Disk Shocks around T Tauri Stars. *L. Hartmann & J. C. Raymond.* 337, 903, 30-B6 (1989)
Pre–Main-Sequence Disk Accretion in Z Canis Majoris. *L. Hartmann, S. J. Kenyon, R. Hewett, S. Edwards, K. M. Strom, S. E. Strom, & J. R. Stauffer.* 338, 1001, 46-C5 (1989)
Ultraviolet Spectroscopy of Pre–Main-Sequence Accretion Disks. *S. J. Kenyon, L. Hartmann, C. L. Imhoff, & A. Cassatella.* 344, 925, 145-E9 (1989)
Chromospheres of Metal-deficient Field Giants. *A. K. Dupree, L. Hartmann, & Graeme H. Smith.* 353, 623, 71-F1 (1990)
Chromospheres of Two Red Giants in NGC 6752. *A. K. Dupree, G. M. Harper, L. Hartmann, Carole Jordan, A. W. Rodgers, & Graeme H. Smith.* 361, L9, 161-D4 (1990)
HARTMANN, LEE. Radiative Bow Shock Models of Herbig-Haro Objects. *Patrick Hartigan, John Raymond, & Lee Hartmann.* 316, 323, 53-D14 (1987)
Improved Bow Shock Models for Herbig-Haro Objects: Application to HH 2A. *John C. Raymond, Patrick Hartigan, & Lee Hartmann.* 326, 323, 35-F8 (1988)
High-Resolution Infrared Spectra of FU Orionis Variables: Keplerian Rotation and Mass Loss. *Scott J. Kenyon & Lee Hartmann.* 342, 1134, 116-B6 (1989)
How to Unveil a T Tauri Star. *Patrick Hartigan, Lee Hartmann, Scott Kenyon, Robert Hewett, & John Stauffer.* 70, 899, 32-D1 (1989)
Winds from T Tauri Stars. I. Spherically Symmetric Models. *Lee Hartmann, Nuria Calvet, Eugene H. Avrett, & Rudolf Loeser.* 349, 168, 16-A8 (1990)
Correlations of Optical and Infrared Excesses in T Tauri Stars. *Patrick Hartigan, Lee Hartmann, Scott J. Kenyon, Stephen E. Strom, & Michael F. Skrutskie.* 354, L25, 80-C11 (1990)
HARTMANN, LEE W. Chromospheric Activity, Kinematics, and Metallicities of Nearby M Dwarfs. *John R. Stauffer & Lee W. Hartmann.* 61, 531, 24-E13 (1986)
The Distribution of Rotational Velocities for Low-Mass Stars in the Pleiades. *John R. Stauffer & Lee W. Hartmann.* 318, 337, 82-E5 (1987)
Rotational Velocities of Low-Mass Stars in the Hyades. *John R. Stauffer, Lee W. Hartmann, & David W. Latham.* 320, L51, 114-D12 (1987)
Lyman-α Emission in Star-forming Galaxies. *Lee W. Hartmann, John P. Huchra, Margaret J. Geller, Paul O'Brien, & Robert Wilson.* 326, 101, 33-B11 (1988)
A Detailed Study of the Lynds 1551 Star Formation Region. *John T. Stocke, Patrick M. Hartigan, Stephen E. Strom, Karen M. Strom, Edwin R. Anderson, Lee W. Hartmann, & Scott J. Kenyon.* 68, 229, 26-D1 (1988)
Ultraviolet Spectrophotometry and Optical and Infrared Photometry of the Old Nova GK Persei. *Chi-Chao Wu, Robert J. Panek, Albert V. Holm, John C. Raymond, Lee W. Hartmann, & Jean H. Swank.* 339, 443, 55-D10 (1989)
Pre–Main-Sequence Stars in the Young Cluster IC 2391. *John Stauffer, Lee W. Hartmann, Burton F. Jones, & Brian R. McNamara.* 342, 285, 104-D3 (1989)
Rotational Velocities of Newly Discovered, Low-Mass Members of the Alpha Persei Cluster. *John R. Stauffer, Lee W. Hartmann, & Burton F. Jones.* 346, 160, 168-B1 (1989)
Optical Veiling, Disk Accretion, and the Evolution of T Tauri Stars. *Lee W. Hartmann & Scott J. Kenyon.* 349, 190, 16-C7 (1990)
On the Apparent Positions of T Tauri Stars in the H-R Diagram. *Scott J. Kenyon & Lee W. Hartmann.* 349, 197, 16-D1 (1990)
Further Evidence for Differential Rotation in V1057 Cygni. *Alan D. Welty, Stephen E. Strom, Karen M. Strom, Lee W. Hartmann, Scott J. Kenyon, Gary L. Grasdalen, & John R. Stauffer.* 349, 328, 17-G12 (1990)
Pre–Main-Sequence Stars in the Young Cluster IC 2391: Erratum. *John Stauffer, Lee W. Hartmann, Burton F. Jones, & Brian R. McNamara.* 350, 480, 30-G5 (1990) (Orig. paper in 342, 285, 104-D3 (1989))
HARTQUIST, T. W. A Model of Static Cosmic-Ray–supported Galactic Coronae. *T. W. Hartquist & G. E. Morfill.* 311, 518, 153-C8 (1986)
The Effects of Dust on the Propagation and Dissipation of Alfvén Waves in Interstellar Clouds. *W. Pilipp, T. W. Hartquist, O. Havnes, & G. E. Morfill.* 314, 341, 37-G9 (1987)
HARTWICK, F. D. A. The Space Distribution of Faint Quasars from the CFHT Survey. *David Crampton, A. P. Cowley, & F. D. A. Hartwick.* 314, 129, 29-D4 (1987)
Kinematics and Age of the Low-Mass X-Ray Binaries. *A. P. Cowley, J. B. Hutchings, David Crampton, & F. D. A. Hartwick.* 320, 296, 111-C11 (1987)
A Search for Primeval Galaxies Using a Narrow-Band Imaging Technique. *C. J. Pritchet & F. D. A. Hartwick.* 320, 464, 114-E2 (1987)
Thermal Instabilities in Low-Mass Subgiants? *I. R. Von Rudloff, Don A. VandenBerg, & F. D. A. Hartwick.* 324, 840, 12-E11 (1988)
Cosmology from a Galaxy Group Catalog. I. Binaries. *C. G. Morgan & F. D. A. Hartwick.* 328, 381, 67-C1 (1988)
The Kinematics of an Old Stellar Population in the Large Magellanic Cloud: The CH Stars. *F. D. A. Hartwick & A. P. Cowley.* 334, 135, 155-F8 (1988)
Redshifts of Quasars in the CFGT/MMT Survey: Further Evidence for Isolated Groups. *David Crampton, A. P. Cowley, & F. D. A. Hartwick.* 345, 59, 149-F7 (1989)
Sinking Satellites and the Halo Velocity Ellipsoid. *R. G. Carlberg & F. D. A. Hartwick.* 345, 196, 151-E3 (1989)
A Search for Primeval Galaxies at $z = 1.9$. *C. J. Pritchet & F. D. A. Hartwick.* 355, L11, 92-B7 (1990)
HARVEY, J. W. Frequencies of Solar p-Mode Oscillations. *T. L. Duvall, Jr., J. W. Harvey, K. G. Libbrecht, B. D. Popp, & M. A. Pomerantz.* 324, 1158, 16-C1 (1988)
HARVEY, K. L. Microflares in the Solar Magnetic Network. *J. G. Porter, R. L. Moore, E. J. Reichmann, E. Engvold, & K. L. Harvey.* 323, 380, 157-C5 (1987)

The Distribution of Solar Magnetic Fluxes and the Nonlinearity of Stellar Flux-Flux Relations. *C. J. Schrijver & K. L. Harvey.* 343, 481, 124-A6 (1989)

HARVEY, KAREN L. Simultaneous Observations of 20 Centimeter Bright Points and He I 10830 Å Dark Points in the Quiet Sun. *Shadia R. Habbal & Karen L. Harvey.* 326, 988, 44-D1 (1988)

HARVEY, P. M. Far-Infrared Structure in the Nuclear Region of M51. *D. F. Lester, P. M. Harvey, & M. Joy.* 302, 280, 31-B7 (1986)

The Spatial Structure of IRC +10216 and NGC 7027 in the Far-Infrared. *D. F. Lester, P. M. Harvey, & M. Joy.* 304, 623, 62-G9 (1986)

Far-Infrared Image Restoration Analysis of the Protostellar Cluster in S140. *D. F. Lester, P. M. Harvey, M. Joy, & H. B. Ellis, Jr.* 309, 80, 120-G11 (1986)

A Near-Infrared Study of the NGC 6334-IV Region. *P. M. Harvey, A. R. Hyland, & S. M. Straw.* 317, 173, 65-G8 (1987)

The 2 Micron Spectrum of L1551 IRS 5. *John S. Carr, P. M. Harvey, & D. F. Lester.* 321, L71, 129-G7 (1987)

Far-Infrared Continuum Emission from the Nucleus, Starburst, and Extended Spiral Arms of NGC 1068. *D. F. Lester, M. Joy, P. M. Harvey, H. B. Ellis, Jr., & P. S. Parmar.* 321, 755, 132-G1 (1987)

Properties of the Gas and Stellar Content of the Superluminous Galaxy NGC 6240. *D. F. Lester, P. M. Harvey, & J. Carr.* 329, 641, 83-F6 (1988)

The Genesis of the Ring Galaxy Arp 144 (NGC 7828/29). *Marshall Joy, H. B. Ellis, Jr., E. V. Tollestrup, D. Brock, J. L. Higdon, & P. M. Harvey.* 330, L29, 96-E10 (1988)

High Spatial Resolution Far-Infrared Scans of W3(OH). *M. F. Campbell, D. F. Lester, P. M. Harvey, & M. Joy.* 345, 298, 152-G3 (1989)

Observations of 40–70 Micron Bands of Ice in IRAS 09371+1212 and Other Stars. *A. Omont, S. H. Moseley, T. Forveille, W. J. Glaccum, P. M. Harvey, L. Likkel, R. F. Loewenstein, & C. M. Lisse.* 355, L27, 92-C11 (1990)

High Spatial Resolution Mapping of the Cepheus A Region at 20, 50, and 100 Microns. *H. B. Ellis, Jr., D. F. Lester, P. M. Harvey, M. Joy, C. M. Telesco, R. Decher, & M. W. Werner.* 365, 287, 210-A6 (1990)

HARVEY, PAUL M. High Angular Resolution Infrared Mapping of the Compact H II Regions W51 and DR 21/W75. *Paul M. Harvey, Marshall Joy, Daniel F. Lester, & Bruce A. Wilking.* 300, 737, 11-C1 (1986)

Infrared Studies of the Herbig-Haro Object 1–2 Region. *Paul M. Harvey, Marshall Joy, Daniel F. Lester, & Bruce A. Wilking.* 301, 346, 17-F2 (1986)

Far-Infrared Photometry of Low-Mass Pre–Main-Sequence Stars with Broad CO Wings. *Neal J. Evans II, Russell M. Levreault, & Paul M. Harvey.* 301, 894, 25-D7 (1986)

The Far-Infrared and Optical Structure of Arp 220. *Marshall Joy, Daniel F. Lester, Paul M. Harvey, & Marian Frueh.* 307, 110, 96-B14 (1986)

Molecular Clouds in the Outer Galaxy. I. Far-Infrared Observations. *Kathryn N. Mead, Marc L. Kutner, Neal J. Evans II, Paul M. Harvey, & Bruce A. Wilking.* 312, 321, 4-D4 (1987)

An Active Star Formation Site in RCW 108. *Steven Straw, A. R. Hyland, Terry J. Jones, Paul M. Harvey, Bruce A. Wilking, & Marshall Joy.* 314, 283, 31-B12 (1987)

A Near-Infrared Study of the Luminous Merging Galaxies NGC 2623 and Arp 148. *Marshall Joy & Paul M. Harvey.* 315, 480, 46-A4 (1987)

Far-Infrared Detection of a Circumstellar Dust Torus around Sharpless 106. *Paul M. Harvey, Daniel F. Lester, & Marshall Joy.* 316, L75, 62-C5 (1987)

Infrared Emission from Young Stars in the Nucleus of M82. *Marshall Joy, Daniel F. Lester, & Paul M. Harvey.* 319, 314, 96-D5 (1987)

The Origin of the Infrared Luminosity in Centaurus A. *Marshall Joy, Daniel F. Lester, Paul M. Harvey, & H. Benton Ellis.* 326, 662, 40-G11 (1988)

Detection of Fluorescent Molecular Hydrogen Emission in the Planetary Nebula Hubble 12. *Harriet L. Dinerstein, Daniel F. Lester, John S. Carr, & Paul M. Harvey.* 327, L27, 53-C5 (1988)

Far-Infrared Observations of a Luminous Dust-shrouded Source in the Nucleus of NGC 4945. *David Brock, Marshall Joy, Daniel F. Lester, Paul M. Harvey, & H. Benton Ellis, Jr.* 329, 208, 77-C9 (1988)

Far-Infrared Emission from the AG Carinae Ring. *Peter J. McGregor, Keith Finlayson, A. R. Hyland, Marshall Joy, Paul M. Harvey, & Dan F. Lester.* 329, 874, 86-E12 (1988)

The Far-Infrared Structure of the Luminous Interacting Galaxy Arp 299 (NGC 3690). *Marshall Joy, Daniel F. Lester, Paul M. Harvey, C. M. Telesco, Rudolf Decher, Lee J Rickard, & Howard Bushouse.* 339, 100, 51-C8 (1989)

High-Resolution, Far-Infrared Observations of NGC 2071. *Harold M. Butner, Neal J. Evans II, Paul M. Harvey, Lee G. Mundy, Antonella Natta, & Maria Sofia Randich.* 364, 164, 196-B1 (1990)

HARWIT, M. The Most Luminous Far-Infrared Extragalactic Sources. *M. Harwit, J. R. Houck, B. T. Soifer, & G. G. C. Palumbo.* 315, 28, 40-C6 (1987)

HARWIT, MARTIN. Extremely Luminous Far-Infrared Colliding Galaxies—Computation of Colliding-Galaxy Luminosity Function. *Martin Harwit & Charles E. Fuller.* 328, 111, 63-C1 (1988)

What is the Evidence on Antigalaxies? *Martin Harwit.* 347, 688, 191-G1 (1989)

HASAN, HASHIMA. Chaotic Orbits in Barred Galaxies with Central Mass Concentrations. *Hashima Hasan & Colin Norman.* 361, 69, 157-G9 (1990)

HASAN, S. SIRAJUL. Energy Transport in Intense Flux Tubes on the Sun. I. Equilibrium Atmospheres. *S. Sirajul Hasan.* 332, 499, 128-E6 (1988)

HASCHICK, A. D. The Leo Triplet Spiral Galaxy NGC 3628. I. VLA Observations of the Neutral Hydrogen Absorption. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 315, 492, 46-B3 (1987)

The Leo Triplet Spiral Galaxy NGC 3628. II. VLA Observations of the Hydroxyl Absorption. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 320, 145, 109-E11 (1987)

The Megamaser Galaxy Markarian 273. I. VLA Observations of the Hydroxyl Emission. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 321, 225, 124-F6 (1987)

Magnetic Field Structure of the Star-forming Region W3(OH): VLBI Spectral Line Results. *J. A. García-Barreto, B. F. Burke, M. J. Reid, J. M. Moran, A. D. Haschick, & R. T. Schilizzi.* 326, 954, 44-A8 (1988)

The Megamaser Galaxy Markarian 273. II. VLA Observations of the Neutral Hydrogen Absorption. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 329, 142, 76-E7 (1988)

The Orion-KL Super Water Maser. *Guido Garay, J. M. Moran, & A. D. Haschick.* 338, 244, 36-A1 (1989)

VLBI Observations of the Water Vapor Maser in the Nucleus of NGC 3079. *A. D. Haschick, W. A. Baan, M. H. Schneps, M. J. Reid, J. M. Moran, & R. Güsten.* 356, 149, 100-G9 (1990)

HASCHICK, AUBREY. H I Absorption and OH Emission in IC 694/NGC 3690. *Willem A. Baan & Aubrey Haschick.* 364, 65, 194-G1 (1990)

HASCHICK, AUBREY D. Molecular Clouds Associated with Compact H II Regions. III. Spin-up and Collapse in the Core of G10.6–0.4. *Paul T. P. Ho & Aubrey D. Haschick.* 304, 501, 59-D6 (1986)

Formation of OB Clusters: Radiation-driven Implosion? *Paul T. P. Ho, Richard I. Klein, & Aubrey D. Haschick.* 305, 714, 76-F3 (1986)

Formaldehyde Absorption and Maser Emission in Galaxies. *Willem A. Baan, Rolf Güsten, & Aubrey D. Haschick.* 305, 830, 78-A8 (1986)

The 18 Centimeter OH Emission of IC 4553 (Arp 220). *Willem A. Baan & Aubrey D. Haschick.* 318, 139, 80-D10 (1987)

Temperature and Density Structure of the Collapsing Core of G10.6–0.4. *Eric R. Keto, Paul T. P. Ho, & Aubrey D. Haschick.* 318, 712, 88-F8 (1987)

Zw 15107+0724 and the Family of OH Megamasers. *Willem A. Baan, Christian Henkel, & Aubrey D. Haschick.* 320, 154, 109-F6 (1987)

The Observed Structure of the Accretion Flow around G10.6–0.4. *Eric R. Keto, Paul T. P. Ho, & Aubrey D. Haschick.* 324, 920, 13-E8 (1988)

A Rotating Circumstellar Molecular Disk Surrounding NGC 6334 I. *James M. Jackson, Paul T. P. Ho, & Aubrey D. Haschick.* 333, L73, 152-E5 (1988)

The Detection of the 4_{-1}–3_0 *E* Transition of Methanol at 36.2 GHz toward Hot H II Regions. *Aubrey D. Haschick & Willem A. Baan.* 339, 949, 63-D10 (1989)

Detection of Three New Methanol Maser Transitions toward Star-forming Regions. *Aubrey D. Haschick, Willem A. Baan, & Karl M. Menten.* 346, 330, 170-C1 (1989)

Molecular Outflows in Powerful OH Megamasers. *Willem A. Baan, Aubrey D. Haschick, & Christian Henkel.* 346, 680, 175-G6 (1989)

Formation of OB Clusters: Detection of SiO v=0, J=1–0 Emission as an Indicator of Compact Outflow Sources. *Aubrey D. Haschick & Paul T. P. Ho.* 352, 630, 58-G7 (1990)

Detection of Widespread Strong Methanol Masers at 44 GHz. *Aubrey D. Haschick, Karl M. Menten, & Willem A. Baan.* 354, 556, 83-C4 (1990)

Periodic Variations of the Extragalactic H_2O Maser in NGC 4258. *Aubrey D. Haschick & Willem A. Baan.* 355, L23, 92-C6 (1990)

HASEGAWA, H. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

HASEGAWA, HIROICHI. Formation of Dust Grains in the Ejecta of SN 1987A. *Takashi Kozasa, Hiroichi Hasegawa, & Ken'ichi Nomoto.* 344, 325, 137-A13 (1989)

Thermal Radiation from Dust Grains Formed in the Ejecta of SN 1987A. *Takashi Kozasa, Hiroichi Hasegawa, & Ken'ichi Nomoto.* 346, L81, 181-D5 (1989)

HASEGAWA, T. The Structure of the W49A Molecular Cloud Complex: Burst of Star Formation in the 10^5 $M_\odot$ Core. *R. Miyawaki, M. Hayashi, & T. Hasegawa.* 305, 353, 71-A13 (1986)

The Bright-Rimmed Molecular Cloud around S140 IRS. II. Bipolar Outflow from S140 IRS 1. *M. Hayashi, T. Hasegawa, T. Omodaka, S. S. Hayashi, & R. Miyawaki.* 312, 327, 4-D10 (1987)

Small-Scale Structure and Chemical Differential in the Central Regions of the Sagittarius B2 Molecular Cloud. *Paul F. Goldsmith, Ronald L. Snell, T. Hasegawa, & N. Ukita.* 314, 525, 35-C6 (1987)

Discovery of a Reflection Dust Envelope around IRC +10216. *M. Tamura, T. Hasegawa, N. Ukita, I. Gatley, I. S. McLean, M. G. Burton, J. T. Rayner, & M. J. McCaughrean.* 326, L17, 38-B9 (1988)

Neutral Stellar Winds That Drive Bipolar Outflows in Low-Mass Protostars. *Susana Lizano, Carl Heiles, Luis F. Rodríguez, Bon-Chul Koo, Frank H. Shu, T. Hasegawa, S. Hayashi, & I. F. Mirabel.* 328, 763, 71-D7 (1988)

HASEGAWA, TATSUHIKO I. High-Velocity Flows in the NGC 7538 Molecular Cloud. *Osamu Kameya, Tatsuhiko I. Hasegawa, Naomi Hirano, Keiya Takakubo, & Munezo Seki.* 339, 222, 52-F5 (1989)

HASEGAWA, TETSUO. Fluorescent Molecular Hydrogen Emission from the Reflection Nebula NGC 2023. *Ian Gatley, Tetsuo Hasegawa, Hiroko Suzuki, Ron Garden, Peter Brand, John Lightfoot, William Glencross, Haruyuki Okuda, & Tetsuya Nagata.* 318, L73, 92-D4 (1987)

Level Population and Para/Ortho Ratio of Fluorescent H_2 in NGC 2023. *Tetsuo Hasegawa, Ian Gatley, Ron P. Garden, Peter W. J. L. Brand, Masatoshi Ohishi, Masahiko Hayashi, & Norio Kaifu.* 318, L77, 92-D12 (1987)

Structure of Cepheus A. I. CO Observations. *Saeko Suzuki Hayashi, Tetsuo Hasegawa, & Norio Kaifu.* 332, 354, 127-A9 (1988)

Infrared Spectroscopy of Interstellar Molecular Hydrogen: Decomposition of Thermal and Fluorescent Components. *Masuo Tanaka, Tetsuo Hasegawa, Saeko S. Hayashi, Peter W. J. L. Brand, & Ian Gatley.* 336, 207, 3-F3 (1989)

Velocity Field in the Fragmented Molecular Cloud Core of W3: Evidence for Large-Scale Turbulence. *Masahiko Hayashi, Hideyuki Kobayashi, & Tetsuo Hasegawa.* 340, 298, 70-F10 (1989)

Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M−0.13−0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)

The Inner, Dense Part of the Protostellar Disk: A CS J = 7–6 Observation around NGC 2071 IRS. *Takuya Yamashita, Saeko S. Hayashi, Norio Kaifu, Osamu Kameya, Nobuharu Ukita, & Tetsuo Hasegawa.* 347, L85, 199-E1 (1989)

A Spectacular Molecular Outflow in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, Tetsuo Hasegawa, Saeko S. Hayashi, Masahiko Hayashi, Norio Kaifu, Ian Gatley, Thomas P. Greene, & Erick T. Young.* 352, 615, 58-F1 (1990)

The Asymmetric CO Distribution in the Virgo Cluster Spiral NGC 4419. *Jeffrey D. P. Kenney, Judith S. Young, Tetsuo Hasegawa, & Naomasa Nakai.* 353, 460, 69-F7 (1990)

Infrared Images of Ionized and Molecular Hydrogen Emission in S106. *Saeko S. Hayashi, Tetsuo Hasegawa, Masuo Tanaka, Masahiko Hayashi, Colin Aspin, Ian S. McLean, Peter W. J. L. Brand, & Ian Gatley.* 354, 242, 77-B2 (1990)

Aperture Synthesis Observations of NH_3 in OMC-1: Filamentary Structures around Orion-KL. *Yasuhiro Murata, Ryohei Kawabe, Masato Ishiguro, Koh-Ichiro Morita, Takashi Kasuga, Toshiaki Takano, & Tetsuo Hasegawa.* 359, 125, 135-E9 (1990)

HASHIMOTO, MASA-AKI. The $^{14}N(e^-,\nu)^{14}C(\alpha,\gamma)^{18}O$ Reaction and Helium Flashes in Accreting Helium White Dwarfs. *Masa-aki Hashimoto, Ken'ichi Nomoto, Kenzo Arai, & Keisuke Kaminisi.* 307, 687, 104-D9 (1986)

Explosive Nucleosynthesis in SN 1987A. II. Composition, Radioactivities, and the Neutron Star Mass. *Friedrich-Karl Thielemann, Masa-aki Hashimoto, & Ken'ichi Nomoto.* 349, 222, 16-F1 (1990)

Low-Mass Helium Star Models for Type Ib Supernovae: Light Curves, Mixing, and Nucleosynthesis. *Toshikazu Shigeyama, Ken'ichi Nomoto, Takuji Tsujimoto, & Masa-aki Hashimoto.* 361, L23, 161-F1 (1990)

HASHIMOTO, O. Water Maser Emission toward V788 Cygni, a Carbon Star. *Y. Nakada, H. Izumiura, T. Onaka, O. Hashimoto, N. Ukita, S. Deguchi, & T. Tanabé.* 323, L77, 158-F6 (1987)

HASINGER, G. Bimodal Quasi-oscillatory and Spectral Behavior in Scorpius X-1. *W. Priedhorsky, G. Hasinger, W. H. G. Lewin, J. Middleditch, A. Parmar, L. Stella, & N. White.* 306, L91, 94-A10 (1986)

The Complex Cross-Spectra of Cygnus X-2 and GX 5-1. *M. van der Klis, G. Hasinger, L. Stella, A. Langmeier, J. van Paradijs, & W. H. G. Lewin.* 319, L13, 100-B2 (1987)

EXOSAT Observations of 4U 1705−44: Type I Bursts and Persistent Emission. *A. Langmeier, M. Sztajno, G. Hasinger, J. Trümper, & M. Gottwald.* 323, 288, 156-B13 (1987)

A Third X-Ray Spectral Mode in Scorpius X-1: Similarities to the Other Bright Bulge Sources. *G. Hasinger, W. C. Priedhorsky, & J. Middleditch.* 337, 843, 29-D4 (1989)

X-Ray Bursts from 4U 1705−44: Another Case of Burst Properties Dependent on the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. Langmeier, G. Hasinger, W. H. G. Lewin, & J. van Paradijs.* 339, 1044, 64-E8 (1989)

Detection of a Strong Excess Noise Component in the Low State of 4U 1705−44. *A. Langmeier, G. Hasinger, & J. Trümper.* 340, L21, 75-E1 (1989)

Correlation of X-Ray Burst Properties with Source State in the "Atoll" Source 4U/MXB 1636−53. *M. van der Klis, G. Hasinger, E. Damen, W. Penninx, J. van Paradijs, & W. H. G. Lewin.* 360, L19, 149-D1 (1990)

HASINGER, GÜNTHER. Period Measurements of the 50 Millisecond Pulsar PSR 0540−69 with the *EXOSAT* Satellite. *Hakki Ögelman & Günther Hasinger.* 353, L21, 67-C6 (1990)

HASSALL, B. J. M. *EXOSAT* and *IUE* Observations of SW UMa during Superoutburst. *Paula Szkody, Julian Osborne, & B. J. M. Hassall.* 328, 243, 64-F1 (1988)

IUE Observations of the Dwarf Nova BV Centauri. *G. Williger, Graham Berriman, Richard A. Wade, & B. J. M. Hassall.* 333, 277, 141-B7 (1988)

HASSAM, A. B. Analytic Equilibrium of Thin Force-free Current Layers in Solar Magnetic Arcades. *A. B. Hassam.* 329, 1002, 88-B1 (1988)

Tearing Modes in Solar Coronal Loops. *A. B. Hassam.* 348, 778, 12-B8 (1990)

HASSLER, DONALD M. Line Broadening of Mg x $\lambda\lambda$609 and 625 Coronal Emission Lines Observed above the Solar Limb. *Donald M. Hassler, Gary J. Rottman, Edward C. Shoub, & Thomas E. Holzer.* 348, L77, 13-D6 (1990)

The Systematic Radial Downflow in the Transition Region of the Quiet Sun from Limb-to-Limb Observations of the C IV Resonance Lines. *Gary J. Rottman, Donald M. Hassler, Michael D. Jones, & Frank Q. Orrall.* 358, 693, 132-B10 (1990)

HASWELL, CAROLE A. A Detection of Orbital Radial Velocity Variations of the Primary Component in the Black Hole Binary A0620−00 (= V616 Monocerotis). *Carole A. Haswell & Allen W. Shafter.* 359, L47, 144-B10 (1990)

HATANO, Y. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

HATHAWAY, DAVID H. Solar Rotation and the Sunspot Cycle. *David H. Hathaway & Robert M. Wilson.* 357, 271, 114-D6 (1990)

HATSUKADE, ISAMU. Spatial Structure of the Cygnus Loop in the X-Ray Region above 1.5 keV. *Isamu Hatsukade & Hiroshi Tsunemi.* 362, 566, 177-G1 (1990)

HATZES, ARTIE P. Doppler Images of Rotating Stars Using Maximum Entropy Image Reconstruction. *Steven S. Vogt, G. Donald Penrod, & Artie P. Hatzes.* 321, 496, 127-E5 (1987)

Doppler Imaging of Abundance Features on Ap Stars: The Si II Distribution on γ^2 Arietis. *Artie P. Hatzes, G. Donald Penrod, & Steven S. Vogt.* 341, 456, 89-E6 (1989)

HAUGAN, MARK P. On "An Exact Solution of Haugan's Binary Pulsar Equation of Motion." *Mark P. Haugan.* 333, L23, 144-C1 (1988)

HAUSER, M. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

HAUSER, M. G. Molecular Clouds and Star Formation in the Inner Galaxy: A Comparison of CO, H II, and Far-Infrared Surveys. *P. C. Myers, T. M. Dame, P. Thaddeus, R. S. Cohen, R. F. Silverberg, E. Dwek, & M. G. Hauser.* 301, 398, 18-B12 (1986)

Infrared Cirrus and High-Latitude Molecular Clouds. *Janet L. Weiland, Leo Blitz, Eli Dwek, M. G. Hauser, Loris Magnani, & Lee J Rickard.* 306, L101, 94-B6 (1986)

Physical Processes and Infrared Emission from the Cassiopeia A Supernova Remnant. *E. Dwek, H. L. Dinerstein, F. C. Gillett, M. G. Hauser, & W. L. Rice.* 315, 571, 47-A1 (1987)

Large-Scale Galactic Dust Morphology and Physical Conditions from *IRAS* Observations. *T. J. Sodroski, E. Dwek, M. G. Hauser, & F. J. Kerr.* 322, 101, 139-A10 (1987)

On the Redistribution of OB Star Luminosity and the Warming of Nearby Molecular Clouds. *D. Leisawitz & M. G. Hauser.* 332, 954, 134-G9 (1988)

Dust Energetics in the Gas Phases of the Interstellar Medium: The Origin of the Galactic Large-Scale Far-Infrared Emission Observed by *IRAS*. *T. J. Sodroski, E. Dwek, M. G. Hauser, & F. J. Kerr.* 336, 762, 11-G2 (1989)

A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

HAVNES, O. The Effects of Dust on the Propagation and Dissipation of Alfvén Waves in Interstellar Clouds. *W. Pilipp, T. W. Hartquist, O. Havnes, & G. E. Morfill.* 314, 341, 37-G9 (1987)

HAWARDEN, T. G. Molecular and Atomic Hydrogen Line Emission from Star-forming Galaxies. *P. J. Puxley, T. G. Hawarden, & C. M. Mountain.* 364, 77, 195-A1 (1990)

HAWKINS, ISABEL. The $^{12}C/^{13}C$ Isotope Ratio of the Interstellar Medium in the Neighborhood of the Sun. *Isabel Hawkins & Michael Jura.* 317, 926, 76-C5 (1987)

Needling the Early Universe. *Isabel Hawkins & Edward L. Wright.* 324, 46, 1-D10 (1988)

Probing the Possibility of a $^{12}C/^{13}C$ Abundance Gradient from Observations in Interstellar CH^+. *Isabel Hawkins & David M. Meyer.* 338, 888, 45-A1 (1989)

A Precise CN Measurement of the Cosmic Microwave Background Temperature at 1.32 Millimeters. *David M. Meyer, Katherine C. Roth, & Isabel Hawkins.* 343, L1, 125-B6 (1989)

HAWKINS, M. R. S. Evidence for Nonpolar Emission in a New AM Herculis Candidate. *Ian R. Tuohy, Lilia Ferrario, D. T. Wickramasinghe, & M. R. S. Hawkins.* 328, L59, 74-E11 (1988)

HAWLEY, JOHN F. Nonaxisymmetric Disk Instabilities: A Linear and Nonlinear Synthesis. *Omer M. Blaes & John F. Hawley.* 326, 277, 35-C1 (1988)

Simulation of Magnetohydrodynamic Flows: A Constrained Transport Model. *Charles R. Evans & John F. Hawley.* 332, 659, 131-D9 (1988)

Hollow Conical Jet Models for SS 433: A Paradigm Lost? *Christopher S. Kochanek & John F. Hawley.* 350, 561, 33-B11 (1990)

Nonaxisymmetric Instabilities in a Slender Torus: Two- and Three-dimensional Simulations. *John F. Hawley.* 356, 580, 107-D10 (1990)

HAWLEY, SUZANNE L. Absolute Magnitudes and Kinematic Properties of RR Lyrae Stars. *Suzanne L. Hawley, William H. Jefferys, Thomas G. Barnes III, & Wan Lai.* 302, 626, 37-D11 (1986)

On the Absolute Magnitudes of RR Lyrae Stars. *Thomas G. Barnes III & Suzanne L. Hawley.* 307, L9, 100-A12 (1986)

Contemporaneous Photometry and Radial Velocities of RR Lyrae Stars. *Thomas G. Barnes III, Thomas J. Moffett, Suzanne L. Hawley, Mark H. Slovak, & Marian L. Frueh.* 67, 403, 17-E1 (1988)

An Equation for the Evolution of Solar and Stellar Flare Loops. *George H. Fisher & Suzanne L. Hawley.* 357, 243, 114-B1 (1990)

HAXTON, W. C. The ν-Process. *S. E. Woosley, D. H. Hartmann, R. D. Hoffman, & W. C. Haxton.* 356, 272, 102-D8 (1990)

HAYAKAWA, S. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

Spectra and Pulse Period of the Binary X-Ray Pulsar 4U 1538−52. *K. Makishima, K. Koyama, S. Hayakawa, & F. Nagase.* 314, 619, 36-C10 (1987)

The Submillimeter Spectrum of the Cosmic Background Radiation. *T. Matsumoto, S. Hayakawa, H. Matsuo, H. Murakami, S. Sato, A. E. Lange, & P. L. Richards.* 329, 567, 82-G5 (1988)

HAYAKAWA, SATIO. X-Ray Spectra of the Cassiopeia A and Tycho Supernova Remnants and Their Element Abundances. *Hiroshi Tsunemi, Koujun Yamashita, Kuniaki Masai, Satio Hayakawa, & Katsuji Koyama.* 306, 248, 84-A8 (1986)

HAYASHI, CHUSHIRO. The Equilibria of Rotating Isothermal Clouds. *Masayoshi Kiguchi, Shinji Narita, Shoken M. Miyama, & Chushiro Hayashi.* 317, 830, 75-B5 (1987)

HAYASHI, M. The Structure of the W49A Molecular Cloud Complex: Burst of Star Formation in the 10^5 $M_\odot$ Core. *R. Miyawaki, M. Hayashi, & T. Hasegawa.* 305, 353, 71-A13 (1986)

The Bright-Rimmed Molecular Cloud around S140 IRS. II. Bipolar Outflow from S140 IRS 1. *M. Hayashi, T. Hasegawa, T. Omodaka, S. S. Hayashi, & R. Miyawaki.* 312, 327, 4-D10 (1987)

High-Resolution Mapping of the Bipolar Outflow in NGC 2071: Evidence for a Wind-driven Molecular Outflow. *Y. Kitamura,*

R. Kawabe, T. Yamashita, & M. Hayashi. 363, 180, 184-D1 (1990)

HAYASHI, MASAHIKO. Level Population and Para/Ortho Ratio of Fluorescent H_2 in NGC 2023. *Tetsuo Hasegawa, Ian Gatley, Ron P. Garden, Peter W. J. L. Brand, Masatoshi Ohishi, Masahiko Hayashi, & Norio Kaifu.* 318, L77, 92-D12 (1987)

G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)

Velocity Field in the Fragmented Molecular Cloud Core of W3: Evidence for Large-Scale Turbulence. *Masahiko Hayashi, Hideyuki Kobayashi, & Tetsuo Hasegawa.* 340, 298, 70-F10 (1989)

A Spectacular Molecular Outflow in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, Tetsuo Hasegawa, Saeko S. Hayashi, Masahiko Hayashi, Norio Kaifu, Ian Gatley, Thomas P. Greene, & Erick T. Young.* 352, 615, 58-F1 (1990)

Infrared Images of Ionized and Molecular Hydrogen Emission in S106. *Saeko S. Hayashi, Tetsuo Hasegawa, Masuo Tanaka, Masahiko Hayashi, Colin Aspin, Ian S. McLean, Peter W. J. L. Brand, & Ian Gatley.* 354, 242, 77-B2 (1990)

HAYASHI, S. Neutral Stellar Winds That Drive Bipolar Outflows in Low-Mass Protostars. *Susana Lizano, Carl Heiles, Luis F. Rodríguez, Bon-Chul Koo, Frank H. Shu, T. Hasegawa, S. Hayashi, & I. F. Mirabel.* 328, 763, 71-D7 (1988)

HAYASHI, S. S. The Bright-Rimmed Molecular Cloud around S140 IRS. II. Bipolar Outflow from S140 IRS 1. *M. Hayashi, T. Hasegawa, T. Omodaka, S. S. Hayashi, & R. Miyawaki.* 312, 327, 4-D10 (1987)

The Unusual Morphology of the High-Velocity Gas in L723: One Outflow or Two? *L. W. Avery, S. S. Hayashi, & Glenn J. White.* 357, 524, 119-B1 (1990)

HAYASHI, SAEKO S. Infrared Spectroscopy of Interstellar Molecular Hydrogen: Decomposition of Thermal and Fluorescent Components. *Masuo Tanaka, Tetsuo Hasegawa, Saeko S. Hayashi, Peter W. J. L. Brand, & Ian Gatley.* 336, 207, 3-F3 (1989)

Infrared Reflection Nebulae around GL 490 and R Monocerotis: Shell Structure and Possible Large Dust Grains. *Takuya Yamashita, Shuji Sato, Tetsuya Nagata, Ian Gatley, Saeko S. Hayashi, & Yasuo Fukui.* 336, 832, 12-G2 (1989)

The Inner, Dense Part of the Protostellar Disk: A CS $J = 7$–6 Observation around NGC 2071 IRS. *Takuya Yamashita, Saeko S. Hayashi, Norio Kaifu, Osamu Kameya, Nobuharu Ukita, & Tetsuo Hasegawa.* 347, L85, 199-E1 (1989)

Infrared Polarimetry of the NGC 6334 V Bipolar Nebula. *Takao Nakagawa, Tetsuya Nagata, Hideo Matsuhara, Haruyuki Okuda, Hiroshi Shibai, & Saeko S. Hayashi.* 351, 573, 47-C1 (1990)

A Spectacular Molecular Outflow in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, Tetsuo Hasegawa, Saeko S. Hayashi, Masahiko Hayashi, Norio Kaifu, Ian Gatley, Thomas P. Greene, & Erick T. Young.* 352, 615, 58-F1 (1990)

Infrared Images of Ionized and Molecular Hydrogen Emission in S106. *Saeko S. Hayashi, Tetsuo Hasegawa, Masuo Tanaka, Masahiko Hayashi, Colin Aspin, Ian S. McLean, Peter W. J. L. Brand, & Ian Gatley.* 354, 242, 77-B2 (1990)

The Density Structure of the Protostellar Disk: A Power-Law Distribution of the Dust around GGD 27 IRS. *Takuya Yamashita, Shuji Sato, Norio Kaifu, & Saeko S. Hayashi.* 365, 615, 215-G9 (1990)

HAYASHI, SAEKO SUZUKI. Structure of Cepheus A. I. CO Observations. *Saeko Suzuki Hayashi, Tetsuo Hasegawa, & Norio Kaifu.* 332, 354, 127-A9 (1988)

HAYASHI, T. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

HAYASHIDA, K. Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)

HAYASHIDA, N. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

HAYASHIDA, S. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

HAYES, DANIEL P. Rigel's Circumstellar Envelope Structure. *Daniel P. Hayes.* 302, 403, 32-F3 (1986)

Mass Loss in a B2 IIIe Star: ω Orionis 1978–1984. *George Sonneborn, C. A. Grady, Chi-Chao Wu, Daniel P. Hayes, E. F. Guinan, Paul K. Barker, & H. F. Henrichs.* 325, 784, 29-B8 (1988)

HAYES, JOHN. On the Composition Dependence of Thermonuclear Runaway Models for the Recurrent Nova U Scorpii. *James W. Truran, Mario Livio, John Hayes, Sumner Starrfield, & Warren M. Sparks.* 324, 345, 5-A3 (1988)

HAYES, MARION. *SMM* Observations of Si IV and O IV Bursts in Solar Active Regions. *Marion Hayes & R. A. Shine.* 312, 943, 13-C6 (1987)

HAYES, MARTHA P. The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

HAYES, WAYNE. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

HAYNES, MARTHA P. Morphological Segregation in the Pisces-Perseus Supercluster. *Riccardo Giovanelli, Martha P. Haynes, & Guido L. Chincarini.* 300, 77, 1-F13 (1986)

UGC 12591: The Most Rapidly Rotating Disk Galaxy. *Riccardo Giovanelli, Martha P. Haynes, Vera C. Rubin, & W. Kent Ford, Jr.* 301, L7, 20-B4 (1986)

The Pattern of H I Deficiency in the Virgo Cluster. *Martha P. Haynes & Riccardo Giovanelli.* 306, 466, 89-E5 (1986)

The Connection between Pisces-Perseus and the Local Supercluster. *Martha P. Haynes & Riccardo Giovanelli.* 306, L55, 93-F5 (1986)

The Pattern of Gas Deficiency in Cluster Spirals: The Correlation of H I and X-Ray Properties. *Christopher Magri, Martha P. Haynes,*

William Forman, Christine Jones, & Riccardo Giovanelli. 333, 136, 139-D7 (1988)

Void Statistics, Scaling, and the Origins of Large-Scale Structure. *J. N. Fry, Riccardo Giovanelli, Martha P. Haynes, Adrian L. Melott, & Robert J. Scherrer.* 340, 11, 67-B4 (1989)

Double Galaxy Redshifts and the Statistics of Small Numbers. *William I. Newman, Martha P. Haynes, & Yervant Terzian.* 344, 111, 134-D7 (1989)

A Protogalaxy in the Local Supercluster. *Riccardo Giovanelli & Martha P. Haynes.* 346, L5, 173-A10 (1989)

An Optical Counterpart of the Giant H I Cloud H I 1225+0146. *Richard G. McMahon, Michael J. Irwin, Riccardo Giovanelli, Martha P. Haynes, Arthur M. Wolfe, & C. Hazard.* 359, 302, 139-G1 (1990)

HAYNES, R. F. Symmetry of the Radio Emission from Two High-Latitude Supernova Remnants, G296.5+10.0 and G324.7+14.6 (SN 1006). *R. S. Roger, D. K. Milne, M. J. Kesteven, K. J. Wellington, & R. F. Haynes.* 332, 940, 134-F7 (1988)

HAYWARD, T. The Neon Nova. II. Condensation of Silicate Grains in the Ejecta of Nova Vulpeculae 1984 Number 2. *R. D. Gehrz, G. L. Grasdalen, M. Greenhouse, J. A. Hackwell, T. Hayward, & A. F. Bentley.* 308, L63, 120-F12 (1986)

HAYWARD, T. L. The Infrared Spectrum of Comet Bradfield (1987s) and the Silicate Emission Feature. *M. S. Hanner, R. L. Newburn, R. D. Gehrz, T. Harrison, E. P. Ney, & T. L. Hayward.* 348, 312, 4-G9 (1990)

HAYWARD, THOMAS L. H_2 and H I Emission-Line Imaging of the Ring Nebula (NGC 6720). *Matthew A. Greenhouse, Thomas L. Hayward, & Harley A. Thronson, Jr.* 325, 604, 27-B9 (1988)

H_2 and H I Emission-Line Imaging of the Ring Nebula (NGC 6720): Erratum. *Matthew A. Greenhouse, Thomas L. Hayward, & Harley A. Thronson, Jr.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 604, 27-B9 (1988))

Infrared Imaging of the Compact H II Region W3A. *Thomas L. Hayward, Gary L. Grasdalen, Charles E. Woodward, John A. Hackwell, Robert D. Gehrz, & Judith L. Pipher.* 345, 894, 161-F1 (1989)

HAZARD, C. The Remarkable Broad Absorption Line QSO 0059–2735 with Extensive Fe II Absorption. *C. Hazard, Richard G. McMahon, John K. Webb, & Donald C. Morton.* 323, 263, 156-A1 (1987)

QSOs with Narrow Emission Lines. *J. A. Baldwin, Richard McMahon, C. Hazard, & R. E. Williams.* 327, 103, 48-B5 (1988)

An Optical Counterpart of the Giant H I Cloud H I 1225+0146. *Richard G. McMahon, Michael J. Irwin, Riccardo Giovanelli, Martha P. Haynes, Arthur M. Wolfe, & C. Hazard.* 359, 302, 139-G1 (1990)

HE, XIANG-TAO. The Distribution of Quasars on the Large Scale and the Super Large Scale. *You-yuan Zhou, Dong-ping Fang, Zu-gan Deng, & Xiang-tao He.* 311, 578, 154-B11 (1986)

HEALY, A. P. Asymmetries in the CO Lines of IRC +10216. *P. J. Huggins & A. P. Healy.* 304, 418, 58-D7 (1986)

CO in the Helix Nebula. *P. J. Huggins & A. P. Healy.* 305, L29, 74-C2 (1986)

CO in Planetary Nebulae. *P. J. Huggins & A. P. Healy.* 346, 201, 168-E11 (1989)

HEAP, S. R. The Ultraviolet Variability of HD 45166 (qWR+B8 V): Evidence for Stellar Wind Radiative Instabilities. *Allan J. Willis, Ian D. Howarth, D. J. Strickland, & S. R. Heap.* 347, 413, 187-C1 (1989)

HEAP, SARA R. Mass Distribution and Evolutionary Scheme for Central Stars of Planetary Nebulae. *Sara R. Heap & Harry J. Augensen.* 313, 268, 17-G10 (1987)

CCD Imagery of Planetary Nuclei: The Properties of the Central Stars of NGC 2440 and NGC 7027. *Sara R. Heap & Paul Hintzen.* 353, 200, 64-E9 (1990)

HEASLEY, J. N. Color-Magnitude Diagram of Palomar 4: CCD Photometry. *C. A. Christian & J. N. Heasley.* 303, 216, 43-D12 (1986)

IRAS 04238+5336: A Young Reflection Nebula Surrounding a Double Star. *C. G. Wynn-Williams, J. N. Heasley, D. L. DePoy, G. J. Hill, & E. E. Becklin.* 304, 409, 58-C12 (1986)

The Open Cluster NGC 2158: Erratum. *Carol A. Christian, J. N. Heasley, & Kenneth A. Janes.* 305, 954, 79-D10 (1986) (Orig. paper in 299, 683, 135-C13 (1985))

The Main-Sequence Color-Magnitude Diagram of M92. *J. N. Heasley & Carol A. Christian.* 307, 738, 105-A13 (1986)

HEATH, J. R. Long Carbon Chain Molecules in Circumstellar Shells. *H. W. Kroto, J. R. Heath, S. C. O'Brien, R. F. Curl, & R. E. Smalley.* 314, 352, 32-A9 (1987)

HEATHCOTE, S. IRAS 18059–3211: Optically Known as "Gomez's Hamburger": Erratum. *M. T. Ruiz, V. Blanco, J. Maza, S. Heathcote, A. Phillips, K. Kawara, C. Anguita, M. Hamuy, & A. Gómez.* 320, L157, 121-F14 (1987) (Orig. paper in 316, L21, 56-B10 (1987))

HEATHCOTE, S. R. Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

HEATHCOTE, STEVE. IRAS 18059–3211: Optically Known as "Gomez's Hamburger." *María Teresa Ruiz, Víctor Blanco, José Maza, Steve Heathcote, Andrew Phillips, Kimiaki Kawara, Claudio Anguita, Mario Hamuy, & Arturo Gómez.* 316, L21, 56-B10 (1987)

HEBDEN, J. C. Two-dimensional Images of Alpha Orionis. *J. C. Hebden, J. C. Christou, A. Y. S. Cheng, E. K. Hege, P. A. Strittmatter, J. M. Beckers, & H. P. Murphy.* 309, 745, 129-D5 (1986)

HEBDEN, JEREMY C. The Hα Chromosphere of Alpha Orionis. *Jeremy C. Hebden, Andreas Eckart, & E. Keith Hege.* 314, 690, 37-B10 (1987)

Multiwavelength Images of α Orionis. *Julian C. Christou, Jeremy C. Hebden, & E. Keith Hege.* 327, 894, 58-D8 (1988)

HEBER, U. Studies of Hot B Subdwarfs. VII. Non–LTE Radiative Acceleration of Helium in the Atmospheres of sdOB Stars. *G. Michaud, P. Bergeron, U. Heber, & F. Wesemael.* 338, 417, 38-B1 (1989)

HECHT, J. H. A Physical Model for the 2175 Å Interstellar Extinction Feature. *J. H. Hecht.* 305, 817, 77-G6 (1986)

Simulation of Cosmic Dust Spectra. *J. H. Hecht, R. W. Russell, J. R. Stephens, & P. R. Grieve.* 309, 90, 121-A7 (1986)

A Physical Model for the 2175 Å Interstellar Extinction Feature: Erratum. *J. H. Hecht.* 314, 429, 32-G9 (1987) (Orig. paper in 305, 817, 77-G6 (1986))

HECK, A. Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)

HECKERT, P. A. Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. IV. WY Cancri. *M. Zeilik, D. A. Cox, M. J. Ledlow, M. Rhodes, P. A. Heckert, & E. Budding.* 363, 647, 192-B11 (1990)

HECKERT, PAUL A. The Optical and Near-Infrared Polarization Properties of the OVV Quasar 3C 345. *Paul S. Smith, Thomas J. Balonek, Paul A. Heckert, & Richard Elston.* 305, 484, 72-D7 (1986)

Optical and Near-Infrared Observations of BL Lacertae Objects and Active Quasars. *Paul S. Smith, Thomas J. Balonek, Richard Elston, & Paul A. Heckert.* 64, 459, 22-G9 (1987)

Discovery of Variable Infrared Polarization in the Star-forming Region W33. *Paul A. Heckert.* 361, L73, 168-E8 (1990)

HECKMAN, T. Nuclear Outflow from the Edge-on Galaxy NGC 3628. *G. Fabbiano, T. Heckman, & W. C. Keel.* 355, 442, 93-G11 (1990)

HECKMAN, T. M. Molecular Gas in the Type 1 Seyfert Galaxy NGC 7469: Implications for Nuclear Activity. *T. M. Heckman, S. Beckwith, L. Blitz, M. Skrutskie, & A. S. Wilson.* 305, 157, 68-F2 (1986)

On the Nature of QSO Host Galaxies. *Eric P. Smith, T. M. Heckman, G. D. Bothun, W. Romanishin, & B. Balick.* 306, 64, 81-G6 (1986)

Galaxy Collisions and Mergers: The Genesis of Very Powerful Radio Sources? *T. M. Heckman, Eric P. Smith, Stefi A. Baum, W. J. M. van Breugel, G. K. Miley, G. D. Illingworth, G. D. Bothun, & B. Balick.* 311, 526, 153-D2 (1986)

The Detection of Wolf-Rayet Stars in a Very Powerful Far-Infrared Galaxy: Direct Evidence for a Starburst. *L. Armus, T. M.*

Heckman, & G. K. Miley. 326, L45, 46-B1 (1988)
A Soft X-Ray Flare in the Seyfert 1 Galaxy Markarian 335. *M. G. Lee, Bruce Balick, J. P. Halpern, & T. M. Heckman.* 331, 154, 107-F10 (1988)
Multicolor Surface Photometry of Powerful Radio Galaxies. I. Observations and Data Reduction. *Eric P. Smith & T. M. Heckman.* 69, 365, 6-D1 (1989)
Kinematics and Ionization of Extended Gas in Active Galaxies. V. The Seyfert Galaxy NGC 5548. *A. S. Wilson, Xuening Wu, T. M. Heckman, J. A. Baldwin, & B. Balick.* 339, 729, 60-G7 (1989)
Multicolor Surface Photometry of Powerful Radio Galaxies. II. Morphology and Stellar Content. *Eric P. Smith & T. M. Heckman.* 341, 658, 93-D9 (1989)
A Millimeter-Wave Survey of CO Emission in Seyfert Galaxies. *T. M. Heckman, L. Blitz, A. S. Wilson, L. Armus, & G. K. Miley.* 342, 735, 111-E4 (1989)
The Local Environments of Low-Redshift Quasars and Powerful Radio Galaxies. *Eric P. Smith & T. M. Heckman.* 348, 38, 1-E2 (1990)
Stellar Dynamics of Powerful Radio Galaxies. *Eric P. Smith, T. M. Heckman, & G. D. Illingworth.* 356, 399, 105-C1 (1990)

HECKMAN, TIM. High-Resolution CO Images of Seyfert Galaxies. *Margaret Meixner, Richard Puchalsky, Leo Blitz, Melvyn Wright, & Tim Heckman.* 354, 158, 76-A1 (1990)

HECKMAN, TIMOTHY. Extended Optical Line Emitting Gas in Radio Galaxies: Broad-Band Optical, Narrow-Band Optical, and Radio Imaging of a Representative Sample. *Stefi A. Baum, Timothy Heckman, Alan Bridle, Wil van Breugel, & George Miley.* 68, 643, 33-B1 (1988)
Extended Optical Line Emitting Gas in Powerful Radio Galaxies: Statistical Properties and Physical Conditions. *Stefi A. Baum & Timothy Heckman.* 336, 681, 11-A1 (1989)
Extended Optical Line Emitting Gas in Powerful Radio Galaxies: What is the Radio Emission-Line Connection? *Stefi A. Baum & Timothy Heckman.* 336, 702, 11-B8 (1989)
Major and Minor Axis Kinematics of 22 Ellipticals. *Marijn Franx, Garth Illingworth, & Timothy Heckman.* 344, 613, 142-B3 (1989)
Long-Slit Optical Spectroscopy of Emission-Line Nebulae in Radio Galaxies: The Data. *Stefi A. Baum, Timothy Heckman, & Wil van Breugel.* 74, 389, 35-G7 (1990)

HECKMAN, TIMOTHY M. 4C 29.30: Extended Optical Line and Radio Emission in a Probable Galaxy Merger. *Wil J. M. van Breugel, Timothy M. Heckman, George K. Miley, & Alexei V. Filippenko.* 311, 58, 146-E8 (1986)
Dynamical, Physical, and Chemical Properties of Emission-Line Nebulae in Cooling Flows. *Timothy M. Heckman, Stefi A. Baum, W. J. M. van Breugel, & Patrick McCarthy.* 338, 48, 33-F1 (1989)
Long-Slit Optical Spectroscopy of Powerful Far-Infrared Galaxies: The Nature of the Nuclear Energy Source. *Lee Armus, Timothy M. Heckman, & George K. Miley.* 347, 727, 192-D1 (1989)
The Optical Emission-Line Nebulae of Powerful Far-Infrared Galaxies. *Lee Armus, Timothy M. Heckman, & George K. Miley.* 364, 471, 201-G11 (1990)
On the Nature and Implications of Starburst-driven Galactic Superwinds. *Timothy M. Heckman, Lee Armus, & George K. Miley.* 74, 833, 43-B7 (1990)

HEESCHEN, D. S. Current Star Formation as the Origin of Kiloparsec-Scale Radio Sources in Nearby E/S0 Galaxies. *J. M. Wrobel & D. S. Heeschen.* 335, 677, 180-A4 (1988)

HEFLIN, M. B. 15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

HEFLIN, MICHAEL B. The Second MIT–Green Bank 5 GHz Survey. *Glen I. Langston, Michael B. Heflin, Sam R. Conner, Joseph Lehár, Chris L. Carrilli, & Bernard F. Burke.* 72, 621, 11-A1 (1990)
Faint Radio Sources and Gravitational Lensing. *Glen I. Langston, Samuel R. Conner, Michael B. Heflin, Joseph Lehár, & Bernard F. Burke.* 353, 34, 62-E1 (1990)

HEFLIN, MIKE. The Third MIT–Green Bank 5 GHz Survey. *Mark Griffith, Glen Langston, Mike Heflin, Sam Conner, Joseph Lehár, & Bernard Burke.* 74, 129, 31-E9 (1990)

HEGE, E. K. Detection of the Lensing Galaxy in PG 1115+08. *Stuart B. Shaklan & E. K. Hege.* 303, 605, 49-B5 (1986)
Diameter and Limb-darkening Measures for Alpha Orionis. *A. Y. S. Cheng, E. K. Hege, E. N. Hubbard, L. Goldberg, P. A. Strittmatter, & W. J. Cocke.* 309, 737, 129-C11 (1986)
Two-dimensional Images of Alpha Orionis. *J. C. Hebden, J. C. Christou, A. Y. S. Cheng, E. K. Hege, P. A. Strittmatter, J. M. Beckers, & H. P. Murphy.* 309, 745, 129-D5 (1986)

HEGE, E. KEITH. The Hα Chromosphere of Alpha Orionis. *Jeremy C. Hebden, Andreas Eckart, & E. Keith Hege.* 314, 690, 37-B10 (1987)
Chromospheric Activity and Ages of Solar-Type Stars. *Don C. Barry, Richard H. Cromwell, & E. Keith Hege.* 315, 264, 42-G5 (1987)
Multiwavelength Images of α Orionis. *Julian C. Christou, Jeremy C. Hebden, & E. Keith Hege.* 327, 894, 58-D8 (1988)

HEGYI, DENNIS J. Black Holes and Local Dark Matter. *Dennis J. Hegyi, Edward W. Kolb, & K. A. Olive.* 300, 492, 8-E2 (1986)
A Case against Baryons in Galactic Halos. *Dennis J. Hegyi & Keith A. Olive.* 303, 56, 41-E10 (1986)
Cosmic Background Radiation Temperature from CN Absorption. *Philippe Crane, Dennis J. Hegyi, Nazzareno Mandolesi, & Anthony C. Danks.* 309, 822, 130-C8 (1986)
Detection of Interstellar ^{13}CN toward ζ Ophiuchi. *Philippe Crane & Dennis J. Hegyi.* 326, L35, 38-D1 (1988)
Cosmic Background Radiation Temperature at 2.64 Millimeters. *Philippe Crane, Dennis J. Hegyi, Marc L. Kutner, & Nazzareno Mandolesi.* 346, 136, 167-F11 (1989)
Evidence against Baryonic Dark Matter in Elliptical Galaxies. *Dennis J. Hegyi & Keith A. Olive.* 340, 648, 175-E1 (1989)
A Precise Measurement of the Cosmic Background Radiation at 1.32 Millimeters. *E. Palazzi, N. Mandolesi, Philippe Crane, Marc L. Kutner, J. C. Blades, & Dennis J. Hegyi.* 357, 14, 111-C3 (1990)

HEILES, C. A Search for Vibrationally Excited Interstellar H_2^+. *W. L. H. Shuter, D. R. W. Williams, Shrinivas R. Kulkarni, & C. Heiles.* 306, 255, 84-B1 (1986)
The Magnetic Field in the Vicinity of S106. *I. Kazès, T. H. Troland, R. M. Crutcher, & C. Heiles.* 335, 263, 173-D7 (1988)
Aperture Synthesis Observations of the 21 Centimeter Zeeman Effect toward Orion A. *T. H. Troland, C. Heiles, & W. M. Goss.* 337, 342, 21-E9 (1989)
Measurement of Magnetic Field Strength in the Dark Cloud Barnard 1. *A. A. Goodman, R. M. Crutcher, C. Heiles, P. C. Myers, & T. H. Troland.* 338, L61, 49-C5 (1989)
Structure of the Magnetic Field in the W3 Core. *T. H. Troland, R. M. Crutcher, W. M. Goss, & C. Heiles.* 347, L89, 199-E5 (1989)

HEILES, CARL. Aperture Synthesis Observations of the 21 Centimeter Zeeman Effect toward Cassiopeia A. *U. J. Schwarz, T. H. Troland, J. S. Albinson, J. D. Bregman, W. M. Goss, & Carl Heiles.* 301, 320, 17-D4 (1986)
Zeeman Splitting of 18 Centimeter OH Lines toward Cassiopeia A and Other Sources. *Carl Heiles & Mary Stevens.* 301, 331, 17-E1 (1986)
Interstellar Magnetic Field Strengths and Gas Densities: Observational and Theoretical Perspectives. *T. H. Troland & Carl Heiles.* 301, 339, 17-E9 (1986)
A New Assault on the 92 Centimeter Line of D I. *Leo Blitz & Carl Heiles.* 313, L95, 27-E9 (1987)
Supernovae versus Models of the Interstellar Medium and the Gaseous Halo. *Carl Heiles.* 315, 555, 46-F10 (1987)
L204: A Gravitationally Confined Dark Cloud in a Strong Magnetic Environment. *Carl Heiles.* 324, 321, 4-F7 (1988)
A Survey of 12.2 GHz Methanol Masers and Their Polarization Properties. *Bon-Chul Koo, David R. W. Williams, Carl Heiles, & Donald C. Backer.* 326, 931, 43-F9 (1988)
Neutral Stellar Winds That Drive Bipolar Outflows in Low-Mass Protostars. *Susana Lizano, Carl Heiles, Luis F. Rodríguez, Bon-Chul Koo, Frank H. Shu, T. Hasegawa, S. Hayashi, & I. F. Mirabel.* 328, 763, 71-D7 (1988)
Molecules, Grains, and Shocks: A Comparison of CO, H I, and *IRAS* Data. *Carl Heiles, William T. Reach, & Bon-Chul Koo.* 332, 313, 126-E9 (1988)

Magnetic Fields, Pressures, and Thermally Unstable Gas in Prominent H I Shells. *Carl Heiles.* 336, 808, 12-D5 (1989)

A Large Bubble around the Crab Nebula. *Roger W. Romani, William T. Reach, Bon-Chul Koo, & Carl Heiles.* 349, L51, 24-C5 (1990)

Clustered Supernovae versus the Gaseous Disk and Halo. *Carl Heiles.* 354, 483, 82-D3 (1990)

Detection of an Expanding H I Shell in the Old Supernova Remnant CTB 80. *Bon-Chul Koo, William T. Reach, Carl Heiles, Robert A. Fesen, & J. Michael Shull.* 364, 178, 196-C5 (1990)

HEILIGMAN, G. M. Clump 1: An Unusual Molecular Cloud Complex near the Galactic Center. *T. M. Bania, Antony A. Stark, & G. M. Heiligman.* 307, 350, 98-G12 (1986)

Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)

HEILIGMAN, GARY M. Molecular Gas within 2° of the Galactic Center. I. Survey of ^{13}CO Emission. *Gary M. Heiligman.* 314, 747, 37-G1 (1987)

HEINBACH, U. Antiproton Production of Propagating Cosmic Rays under Distributed Reacceleration. *Manfred Simon, U. Heinbach, & Ch. Koch.* 320, 699, 117-D6 (1987)

HEINDL, W. A. Energetics and Dynamics of Simple Impulsive Solar Flares. *R. Starr, W. A. Heindl, C. J. Crannell, R. J. Thomas, D. A. Batchelor, & A. Magun.* 329, 967, 87-F3 (1988)

HEINRICH, W. Propagation of Injected Cosmic Rays under Distributed Reacceleration. *M. Simon, W. Heinrich, & K. D. Mathis.* 300, 32, 1-C10 (1986)

HEINTZ, W. D. Micrometer Observations of Double Stars and New Pairs. XIII. *W. D. Heintz.* 65, 161, 29-E11 (1987)

Observations of Double Stars and New Pairs. XIV. *W. D. Heintz.* 74, 275, 33-G7 (1990)

HEINZ, R. M. The Detection of Solar Neutrinos in a Water Cerenkov Counter. *S. L. Mufson & R. M. Heinz.* 327, 457, 52-A11 (1988)

Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

HEISE, J. The High-Resolution Soft X-Ray Spectrum of HZ 43. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, E. H. B. M. Gronenschild, & J. Heise.* 308, 190, 110-B6 (1986)

Measurement of the EUV Spectrum of the Hot White Dwarf Feige 24. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, & J. Heise.* 309, L33, 125-E10 (1986)

EXOSAT and *IUE* Observations of Contact Binaries. *O. Vilhu & J. Heise.* 311, 937, 158-B5 (1986)

Determination of Photospheric Helium Abundances for the Hot White Dwarfs LB 1663 and CD −38°10980 from *EXOSAT* Soft X-Ray Photometry. *F. B. S. Paerels, J. Heise, S. M. Kahn, & R. D. Rogers.* 322, 315, 141-C6 (1987)

The High-Resolution Photospheric Soft X-Ray Spectrum of Sirius B. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, & J. Heise.* 329, 849, 86-D1 (1988)

The High-Resolution Soft X-Ray Spectrum of HZ 43. II. Bolometric X-Ray Flux, Effective Temperature, and Radius. *J. Heise, F. B. S. Paerels, J. A. M. Bleeker, & A. C. Brinkman.* 334, 958, 167-B1 (1988)

A Soft X-Ray Survey of Hot White Dwarfs with *EXOSAT*. *F. B. S. Paerels & J. Heise.* 339, 1000, 64-B1 (1989)

HEISE, JOHN. Simultaneous *EXOSAT* and VLA Observations of the Contact Binaries VW Cephei and XY Leonis: Quiescent Emission and a Flare on VW Cephei. *Osmi Vilhu, Jean-Pierre Caillault, & John Heise.* 330, 922, 102-E12 (1988)

HEISLER, JULIA. Do Stars That Lose Mass Expand or Contract? A Semianalytical Approach. *Julia Heisler & Charles Alcock.* 306, 166, 83-B4 (1986)

Models of the Quasar Population. I. A New Luminosity Function. *Julia Heisler & Jeremiah P. Ostriker.* 325, 103, 20-C6 (1988)

Models of the Quasar Population. II. The Effects of Dust Obscuration. *Julia Heisler & Jeremiah P. Ostriker.* 332, 543, 130-C1 (1988)

Superclustering of Quasi-stellar Object Absorption Clouds. *Julia Heisler, Craig J. Hogan, & Simon D. M. White.* 347, 52, 182-F7 (1989)

HEITHAUSEN, A. Carbon Monoxide (CO) in the Magellanic Irregular Galaxy NGC 55 and the $N(H_2)/W(CO)$ Ratio in Irregular Galaxies. *R.-J. Dettmar & A. Heithausen.* 344, L61, 148-C1 (1989)

HEITHAUSEN, ANDREAS. Molecular and Atomic Clouds Associated with Infrared Cirrus in Ursa Major. *Hendrik Willem de Vries, Andreas Heithausen, & Patrick Thaddeus.* 319, 723, 103-A1 (1987)

The Polaris Flare: Extensive Molecular Gas near the North Celestial Pole. *Andreas Heithausen & Patrick Thaddeus.* 353, L49, 73-C1 (1990)

HELFAND, D. J. Spectral Variability of Cygnus X-2: Structure in the Circumsource Material. *S. D. Vrtilek, S. M. Kahn, J. E. Grindlay, D. J. Helfand, & F. D. Seward.* 307, 698, 104-E9 (1986)

X-Ray Emission Lines from Three Galactic Bulge Sources. *S. D. Vrtilek, D. J. Helfand, J. P. Halpern, S. M. Kahn, & F. D. Seward.* 308, 644, 116-A10 (1986)

G0.9+0.1 and the Emerging Class of Composite Supernova Remnants. *D. J. Helfand & R. H. Becker.* 314, 203, 30-C10 (1987)

VLA Observations of the Fast Pulsar Candidate in M28. *W. C. Erickson, M. J. Mahoney, R. H. Becker, & D. J. Helfand.* 314, L45, 39-B9 (1987)

High-Resolution Radio Obvservations of the Supernova Remnant G24.7+0.6 and the Discovery of an Ultracompact H II Region. *R. H. Becker & D. J. Helfand.* 316, 660, 59-C10 (1987)

The Origin of the Diffuse X-Ray Background. *T. T. Hamilton & D. J. Helfand.* 318, 93, 80-A1 (1987)

X-Ray Observations of the Supernova Remnant N103B in the Large Magellanic Cloud. *K. P. Singh, N. J. Westergaard, H. W. Schnopper, & D. J. Helfand.* 322, 80, 138-G3 (1987)

A 20 Centimeter Survey of Compact Sources in the Northern Galactic Plane. *R. H. Becker, R. L. White, B. J. McLean, D. J. Helfand, & S. Zoonematkermani.* 358, 485, 129-E10 (1990)

A Catalog of Small-Diameter Radio Sources in the Galactic Plane. *S. Zoonematkermani, D. J. Helfand, R. H. Becker, R. L. White, & R. A. Perley.* 74, 181, 32-E11 (1990)

HELFAND, DAVID J. X-Ray–selected M Dwarfs and the Diffuse X-Ray Background. *Jean-Pierre Caillault, David J. Helfand, John A. Nousek, & Leo O. Takalo.* 304, 318, 57-D5 (1986)

The Prevalence of Supernova Remnants among Unidentified Galactic Radio Sources. *David J. Helfand, T. Velusamy, R. H. Becker, & Felix J. Lockman.* 341, 151, 85-G1 (1989)

Optical Polarization of the Crab-like Supernova Remnant 0540−693 in the Large Magellanic Cloud. *Gary A. Chanan & David J. Helfand.* 352, 167, 52-A13 (1990)

HELFER, H. L. On the Dust Jet Model of SS 433. *H. L. Helfer & M. P. Savedoff.* 304, 581, 62-C1 (1986)

Infrared Imaging of the M8 Hourglass. *Charles E. Woodward, Judith L. Pipher, H. L. Helfer, & W. J. Forrest.* 365, 252, 209-C7 (1990)

HELLABY, C. Density Waves in Cosmology. *G. F. R. Ellis, C. Hellaby, & D. R. Matravers.* 364, 400, 200-G12 (1990)

HELLABY, CHARLES. Shell Crossings and the Tolman Model: Erratum. *Charles Hellaby & Kayll Lake.* 300, 461, 6-B3 (1986) (Orig. paper in 290, 381, 28-C1 (1985))

HELLER, CLAYTON H. Evolutionary Period Changes in the Rapidly Oscillating Ap Stars. *Clayton H. Heller & Steven D. Kawaler.* 329, L43, 81-D7 (1988)

HELLINGS, R. W. Inhomogeneous Cosmology. III. Primordial Gravitational Waves and Dust. *P. J. Adams, R. W. Hellings, & R. L. Zimmerman.* 318, 1, 79-A5 (1987)

HELOU, G. Discovery of an Infrared-loud Quasar. *C. A. Beichman, B. T. Soifer, G. Helou, T. J. Chester, G. Neugebauer, F. C. Gillett, & F. J. Low.* 308, L1, 113-E11 (1986)

Small Grains and *IRAS* Colors. *F. Boulanger, C. Beichman, F. X. Désert, G. Helou, M. Pérault, & C. Ryter.* 332, 328, 126-F10 (1988)

The Infrared-to-Radio Ratio within NGC 5236 (M83) and NGC 6946. *M. D. Bicay, G. Helou, & J. J. Condon.* 338, L53, 49-B10 (1989)

A 1.49 GHz Atlas of the *IRAS* Bright Galaxy Sample. *J. J. Condon, G. Helou, D. B. Sanders, & B. T. Soifer.* 73, 359, 23-B1 (1990)

The 60 Micron to 20 Centimeter Infrared-to-Radio Ratio within Spiral Galaxies. *M. D. Bicay & G. Helou.* 362, 59, 169-G1 (1990)
Variations in the Abundance of Transiently Heated Particles within Nearby Molecular Clouds. *F. Boulanger, E. Falgarone, J. L. Puget, & G. Helou.* 364, 136, 195-F5 (1990)
HELOU, GEORGE. The *IRAS* Colors of Normal Galaxies. *George Helou.* 311, L33, 160-B1 (1986)
H I Detection Survey of a Complete Magnitude-limited Sample of Dwarf Irregular Galaxies in the Virgo Cluster Area. *G. Lyle Hoffman, George Helou, E. E. Salpeter, John Glosson, & A. Sandage.* 63, 247, 4-A5 (1987)
On the Origin of the 40–120 Micron Emission of Galaxy Disks: A Comparison with Hα Fluxes. *Carol J. Lonsdale Persson & George Helou.* 314, 513, 35-B8 (1987)
Arecibo Observations of IRAS Galaxies at 21 and 18 Centimeter Wavelengths. *Robert W. Garwood, George Helou, & John M. Dickey.* 322, 88, 138-G11 (1987)
Comparative Properties of Virgo Cluster Dwarf Irregulars and Spirals. *G. Lyle Hoffman, George Helou, & E. E. Salpeter.* 324, 75, 1-F12 (1988)
IRAS Observations of Galaxies in the Virgo Cluster Area. *George Helou, Iffat R. Khan, Ladan Malek, & Lisa Boehmer.* 68, 151, 25-C1 (1988)
H I Observations in the Virgo Cluster Area. III. All "Member" Spirals. *G. Lyle Hoffman, B. M. Lewis, George Helou, E. E. Salpeter, & Hayes L. Williams.* 69, 65, 1-G1 (1989)
Blue Compact Dwarf Galaxies in the Virgo Cluster: H I and *IRAS* Data and Upper Limits on Proto–Dwarf Galaxies. *G. Lyle Hoffman, George Helou, E. E. Salpeter, & B. Murray Lewis.* 339, 812, 61-G4 (1989)
NGC 1058: Gas Motions in an Extended, Quiescent Spiral Disk. *John M. Dickey, Margaret Murray Hanson, & George Helou.* 352, 522, 57-E5 (1990)
HENIZE, KARL G. Spectrophotometry and Chemical Composition of the Oxygen-poor Bipolar Nebula NGC 6164–5. *Reginald J. Dufour, Robert A. R. Parker, & Karl G. Henize.* 327, 859, 58-A12 (1988)
HENKEL, C. VLA Maps of Formaldehyde Absorption toward NGC 2024. *Richard M. Crutcher, C. Henkel, T. L. Wilson, K. J. Johnston, & J. H. Bieging.* 307, 302, 98-C12 (1986)
VLA Observations of the $^{15}NH_3$ Maser Associated with NGC 7538 IRS 1. *K. J. Johnston, S. R. Stolovy, T. L. Wilson, C. Henkel, & R. Mauersberger.* 343, L41, 132-B5 (1989)
HENKEL, CHRISTIAN. The Size Spectrum of Molecular Clouds in the Outer Galaxy. *Susan Terebey, Michel Fich, Leo Blitz, & Christian Henkel.* 308, 357, 112-A1 (1986)
Zw 15107+0724 and the Family of OH Megamasers. *Willem A. Baan, Christian Henkel, & Aubrey D. Haschick.* 320, 154, 109-F6 (1987)
Galactic Center Molecular Clouds. I. Spatial and Spatial Velocity Maps. *John Bally, Antony A. Stark, Robert W. Wilson, & Christian Henkel.* 65, 13, 28-B2 (1987)
H_2O Maser Emission from the Nuclei of NGC 253 and M51. *Paul T. P. Ho, Robert N. Martin, Christian Henkel, & Jean L. Turner.* 320, 663, 117-A12 (1987)
Galactic Center Molecular Clouds. II. Distribution and Kinematics. *John Bally, Antony A. Stark, Robert W. Wilson, & Christian Henkel.* 324, 223, 3-E8 (1988)
Molecular Outflows in Powerful OH Megamasers. *Willem A. Baan, Aubrey D. Haschick, & Christian Henkel.* 346, 680, 175-G6 (1989)
High-Density Molecular Gas in External Galaxies: Formaldehyde and Carbon Monosulfide. *Willem A. Baan, Christian Henkel, Peter Schilke, Rainer Mauersberger, & Rolf Güsten.* 353, 132, 63-G1 (1990)
HENNESSY, G. S. Faraday Rotation from Abell Clusters of Galaxies. *G. S. Hennessy, F. N. Owen, & J. A. Eilek.* 347, 144, 184-A1 (1989)
HENNING, P. A. A Small Spiral Galaxy Discovered at 21 Centimeters in a Cosmic Void. *P. A. Henning & F. J. Kerr.* 347, L1, 189-B1 (1989)
HENNING, PATRICIA A. Searching at 21 Centimeters for Galaxies behind the Milky Way. *Frank J. Kerr & Patricia A. Henning.* 320, L99, 121-C2 (1987)
HÉNOUX, J. C. Impact Line Linear Polarization as a Diagnostic of 100 keV Proton Acceleration in Solar Flares. *J. C. Hénoux, G. Chambe, D. Smith, D. Tamres, N. Feautrier, M. Rovira, & S. Sahal-Bréchot.* 73, 303, 21-G11 (1990)
Coronal Proton Transport in the Presence of Alfvén Waves and Implications for Impact Line Linear Polarization. *D. F. Smith, G. Chambe, J. C. Hénoux, & D. Tamres.* 358, 674, 132-A1 (1990)
HENRICHS, H. F. Recurrent Episodic Mass Loss in a B2e Star: 66 Ophiuchi, 1982–1985. *C. A. Grady, George Sonneborn, Chi-Chao Wu, & H. F. Henrichs.* 65, 673, 39-A2 (1987)
The Complex Wind of the Central Star of the Planetary Nebula Abell 78. *James B. Kaler, Walter A. Feibelman, & H. F. Henrichs.* 324, 528, 7-A6 (1988)
Mass Loss in a B2 IIIe Star: ω Orionis 1978–1984. *George Sonneborn, C. A. Grady, Chi-Chao Wu, Daniel P. Hayes, E. F. Guinan, Paul K. Barker, & H. F. Henrichs.* 325, 784, 29-B8 (1988)
HENRICHS, HUIB F. Ultraviolet Observations of Extensive Variability in the Stellar Wind of ζ Persei. *Raman K. Prinja, Ian D. Howarth, & Huib F. Henrichs.* 317, 389, 68-B11 (1987)
HENRIKSEN, M. Are the Virial Masses of Clusters Smaller than We Think? *L. L. Cowie, M. Henriksen, & R. Mushotzky.* 317, 593, 72-E11 (1987)
HENRIKSEN, MARK J. The X-Ray Structure of the 3C 295 Cluster: A Cooling Flow at a Redshift of 0.5. *J. Patrick Henry & Mark J. Henriksen.* 301, 689, 23-B8 (1986)
The X-Ray Spectrum of the Coma Cluster of Galaxies. *Mark J. Henriksen & Richard F. Mushotzky.* 302, 287, 31-B14 (1986)
Is the Universe Filled with Bubbles? *Neta A. Bahcall, Mark J. Henriksen, & T. Ed Smith.* 346, L45, 181-A10 (1989)
HENRIKSEN, R. N. A Pulsed Jet as the Source of Momentum in Bipolar Molecular Outflows. *S.-U. Choe & R. N. Henriksen.* 305, 131, 68-D5 (1986)
Star Formation in Giant Molecular Clouds. *R. N. Henriksen.* 310, 189, 134-B3 (1986)
Anisotropic Radiation Fields Produced by Scattering in Thick Accretion Disks. *J. Madej, C. Loken, & R. N. Henriksen.* 312, 652, 10-A13 (1987)
Jet Collimation by Turbulent Viscosity. I. *R. N. Henriksen.* 314, 33, 28-D1 (1987)
Plane, Relativistic, Oblique Shock Fronts. *R. N. Henriksen & Catherine F. Westbury.* 327, 50, 47-E3 (1988)
Inhomogeneous Turbulence. *R. N. Henriksen.* 331, 359, 110-C1 (1988)
Inhomogeneous Turbulence: Erratum. *R. N. Henriksen.* 348, 781, 12-B12 (1990) (Orig. paper in 331, 359, 110-C1 (1988))
Spiral Waves and Instability in Magnetized Astrophysical Disks. *M. Tagger, R. N. Henriksen, J.-F. Sygnet, & R. Pellat.* 353, 654, 72-A8 (1990)
A First Use of Wavelet Analysis for Molecular Clouds. *A. G. Gill & R. N. Henriksen.* 365, L27, 212-C11 (1990)
HENRY, GREGORY W. A Survey of Chromospherically Active Stars. *Francis C. Fekel, Thomas J. Moffett, & Gregory W. Henry.* 60, 551, 8-C4 (1986)
The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)
Chromospheric Ca II H and K and Hα Emission in Single and Binary Stars of Spectral Types F6–M2. *Klaus G. Strassmeier, Francis C. Fekel, Bernard W. Bopp, Robert C. Dempsey, & Gregory W. Henry.* 72, 191, 4-D7 (1990)
HR 1362: A Test Case for Stellar Dynamo Theories. *Klaus G. Strassmeier, Douglas S. Hall, William S. Barksdale, Anthony T. Jusick, & Gregory W. Henry.* 350, 367, 29-E3 (1990)
HENRY, J. P. The *Einstein Observatory* Extended Medium-Sensitivity Survey. I. X-Ray Data and Analysis. *I. M. Gioia, T. Maccacaro, R. E. Schild, A. Wolter, J. T. Stocke, S. L. Morris, & J. P. Henry.* 72, 567, 10-C11 (1990)
The Extended Medium-Sensitivity Survey Distant Cluster Sample: X-Ray Cosmological Evolution. *I. M. Gioia, J. P. Henry, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 356, L35, 110-A10 (1990)

A Deep Abell Cluster Redshift Survey. *J. P. Huchra, J. P. Henry, M. Postman, & M. J. Geller.* 365, 66, 206-G1 (1990)

High-Resolution Imaging and the H-R Diagram of Galactic Bulge Planetary Nebulae. *M. A. Dopita, J. P. Henry, I. R. Tuohy, B. L. Webster, E. H. Roberts, Y.-I. Byun, L. L. Cowie, & A. Songaila.* 365, 640, 216-B10 (1990)

HENRY, J. PATRICK. The X-Ray Structure of the 3C 295 Cluster: A Cooling Flow at a Redshift of 0.5. *J. Patrick Henry & Mark J. Henriksen.* 301, 689, 23-B8 (1986)

Spectroscopy of Three Butcher-Oemler Clusters of Galaxies at a Redshift of 0.2. *Russell J. Lavery & J. Patrick Henry.* 304, L5, 61-A8 (1986)

Multiaperture Spectroscopy of Galaxies in Abell 370. *J. Patrick Henry & Russell J. Lavery.* 323, 473, 159-F9 (1987)

Two Blue Arcs Associated with the cD Galaxy of Abell 963. *Russell J. Lavery & J. Patrick Henry.* 329, L21, 81-B11 (1988)

Evidence for Galaxy-Galaxy Interactions as an Active Agent of the "Butcher-Oemler Effect" at a Redshift of 0.2. *Russell J. Lavery & J. Patrick Henry.* 330, 596, 99-A9 (1988)

X-Ray Observations of Distant Blue Clusters of Galaxies. *Susan M. Lea & J. Patrick Henry.* 332, 81, 124-A2 (1988)

HENRY, J. W. Effective Collision Strengths for Electron Impact Excitation in S II. *S. S. Tayal, J. W. Henry, & S. Nakazaki.* 313, 487, 20-C10 (1987)

HENRY, R. C. *IUE* Observations of Interstellar Hydrogen and Deuterium toward Alpha Centauri B. *W. B. Landsman, J. Murthy, R. C. Henry, H. W. Moos, J. L. Linsky, & J. L. Russell.* 303, 791, 51-B12 (1986)

IUE Observations of Hydrogen and Deuterium in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, W. B. Landsman, J. L. Linsky, A. Vidal-Madjar, & C. Gry.* 315, 675, 48-A10 (1987)

Cosmic Ultraviolet Background Radiation and Zodiacal Light. *P. D. Tennyson, R. C. Henry, P. D. Feldman, & G. F. Hartig.* 330, 435, 95-B1 (1988)

IUE Observations of the Interstellar Medium toward β Geminorum. *J. Murthy, J. B. Wofford, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 336, 949, 14-C6 (1989)

The Diffuse Far-Ultraviolet Cosmic Background Radiation Field Observed from the Space Shuttle. *J. Murthy, R. C. Henry, P. D. Feldman, & P. D. Tennyson.* 336, 954, 14-D1 (1989)

Studies of H I and D I in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 356, 223, 101-G5 (1990)

HENRY, RICHARD B. C. Planetary Nebula Central Stars: A Detailed Examination of the Sensitivity of the Zanstra Temperature Method to Stellar and Nebular Parameters. *Richard B. C. Henry & Harry L. Shipman.* 311, 774, 156-C1 (1986)

Predicted [Ni II] Infrared Line Strengths in the Crab Nebula and IC 443. *Richard B. C. Henry.* 322, 399, 142-B12 (1987)

Radio and Optical Studies of Supernova 1961V in NGC 1058. *John J. Cowan, Richard B. C. Henry, & David Branch.* 329, 116, 76-C1 (1988)

[Ni II] Emission in Gaseous Nebulae and Seyfert Galaxies. *Richard B. C. Henry & Robert A. Fesen.* 329, 693, 84-C7 (1988)

Faint Planetary Nebulae in the Magellanic Clouds: Central Star Properties and Nebular Abundances for the Jacoby Sample. *Richard B. C. Henry, James Liebert, & T. A. Boroson.* 339, 872, 62-E7 (1989)

Abundance Patterns in Planetary Nebulae. *Richard B. C. Henry.* 356, 229, 102-A1 (1990)

Abundance Patterns in Planetary Nebulae: Erratum. *Richard B. C. Henry.* 363, 728, 193-B1 (1990) (Orig. paper in 356, 229, 102-A1 (1990))

HENRY, RONALD J. W. Oscillator Strengths for Allowed and Intercombination Electric Dipole Transitions in Fe XII. *S. S. Tayal & Ronald J. W. Henry.* 302, 200, 30-B4 (1986)

Collision Strengths for the Intercombination Lines of S III. *Y. K. Ho & Ronald J. W. Henry.* 303, 797, 51-C4 (1986)

Electron Excitation of Fine-Structure Transitions within the Ground $3s^2 3p^3$ Configuration in Fe XII. *S. S. Tayal, Ronald J. W. Henry, & A. K. Pradhan.* 319, 951, 105-C13 (1987)

Electron Density–sensitive Line Ratios for Fe XII in the Solar Corona. *S. S. Tayal & Ronald J. W. Henry.* 329, 1023, 88-C8 (1988)

Electron Density Diagnostics of Fe XII in the Solar Plasma. *S. S. Tayal, Ronald J. W. Henry, F. P. Keenan, S. M. McCann, & K. G. Widing.* 343, 1004, 131-E1 (1989)

Collision Strengths for Dipole-allowed Transitions in S II. *Y. K. Ho & Ronald J. W. Henry.* 351, 701, 48-G3 (1990)

HENRY, T. J. Direct Infrared Observations of the Very Low Mass Object Gliese 623B. *D. W. McCarthy, Jr., & T. J. Henry.* 319, L93, 107-F3 (1987)

HENRY, TODD J. The Very Low Mass Triple System: G208–44AB and G208–45. *D. W. McCarthy, Jr., Todd J. Henry, Thomas A. Fleming, Rex A. Saffer, James Liebert, & Julian C. Christou.* 333, 943, 150-F1 (1988)

A Systematic Search for Brown Dwarfs Orbiting Nearby Stars. *Todd J. Henry & D. W. McCarthy, Jr.* 350, 334, 29-B7 (1990)

The Companion to Gliese 569. *Todd J. Henry & J. Davy Kirkpatrick.* 354, L29, 80-D2 (1990)

HENSON, G. D. Epsilon Aurigae: Polarization, Light Curves, and Geometry of the 1982–1984 Eclipse. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, T. B. Ake, T. Simon, & G. W. Collins.* 300, L11, 7-B2 (1986)

Variable Polarization and Activity in Arcturus. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, & D. K. Duncan.* 301, L35, 20-D7 (1986)

SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)

Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)

Discovery of Broad-Band Optical Circular Polarization in Alpha Leonis. *G. D. Henson, J. C. Kemp, D. J. Kraus, & D. J. Hankins.* 340, L65, 83-C5 (1989)

HERBIG, G. H. The Trapezium Cluster of the Orion Nebula. *G. H. Herbig & D. M. Terndrup.* 307, 609, 103-E10 (1986)

Near-simultaneous Ultraviolet and Optical Spectrophotometry of T Tauri Stars. *G. H. Herbig & Robert W. Goodrich.* 309, 294, 123-B5 (1986)

The Diffuse Interstellar Bands. VI. New Features near 6800 Å. *G. H. Herbig.* 331, 999, 120-A6 (1988)

The Diffuse Interstellar Bands. VII. Search for Diffuse Features in the Absorption Spectrum of Comet P/Halley. *G. H. Herbig.* 358, 293, 125-F10 (1990)

The Unusual Pre–Main-Sequence Star VY Tauri. *G. H. Herbig.* 360, 639, 154-B1 (1990)

HERBST, E. Cosmic-Ray–induced Photodissociation and Photoionization Rates of Interstellar Molecules. *R. Gredel, S. Lepp, A. Dalgarno, & E. Herbst.* 347, 289, 185-F1 (1989)

HERBST, ERIC. A Reanalysis of the HCO^+/HOC^+ Abundance Ratio in Dense Interstellar Clouds. *Martin F. Jarrold, Michael T. Bowers, D. J. DeFrees, A. D. McLean, & Eric Herbst.* 303, 392, 45-D6 (1986)

The Laboratory Millimeter-Wave Spectrum of Methyl Formate in Its Ground Torsional *E* State. *Grant M. Plummer, Eric Herbst, Frank C. De Lucia, & Geoffrey A. Blake.* 60, 949, 15-A2 (1986)

An Investigation of the Effect of a Centrifugal Barrier on Proposed Large Rate Coefficients for Ion-Polar Neutral Reactions at Low Temperatures. *Eric Herbst.* 306, 667, 91-G5 (1986)

Effects of Large Rate Coefficients for Ion-Polar Neutral Reactions on Chemical Models of Dense Interstellar Clouds. *Eric Herbst & Chun Ming Leung.* 310, 378, 136-B5 (1986)

Ion-Molecule Calculation of the Abundance Ratio of CCD to CCH in Dense Interstellar Clouds. *Eric Herbst, Nigel G. Adams, David Smith, & D. J. DeFrees.* 312, 351, 4-F7 (1987)

Can Gas Phase Reactions Produce Complex Oxygen-containing Molecules in Dense Interstellar Clouds? A Revision of Some Important Radiative Association Rate Coefficients. *Eric Herbst.* 313, 867, 26-C4 (1987)

C-Type Transitions in Methyl Formate. *Grant M. Plummer, Eric Herbst, & Frank C. De Lucia.* 318, 873, 90-E3 (1987)

The Laboratory Millimeter- and Submillimeter-Wave Spectrum of ^{13}C Methanol. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 64, 703, 27-E4 (1987)

A Detailed Investigation of Proposed Gas-Phase Syntheses of Ammonia in Dense Interstellar Clouds. *Eric Herbst, D. J. DeFrees, & A. D. McLean.* 321, 898, 134-D1 (1987)

The Laboratory Millimeter- and Submillimeter-Wave Spectrum of CH_3OD. *Todd Anderson, Richard L. Crownover, Eric Herbst, & Frank C. De Lucia.* 67, 135, 12-A1 (1988)

Radiative Association via Excited Electronic States: Model Calculations. *Eric Herbst & David R. Bates.* 329, 410, 79-E8 (1988)

Identification of Interstellar Methanol Lines. *E. C. Sutton & Eric Herbst.* 333, 359, 142-A9 (1988)

The Laboratory Millimeter- and Submillimeter-Wave Spectrum of the First Two Excited Torsional States of $^{13}CH_3OH$. *Todd Anderson, Eric Herbst, Frank C. De Lucia, K. V. L. N. Sastry, & R. M. Lees.* 68, 821, 36-A1 (1988)

Gas Phase Production of Complex Hydrocarbons, Cyanopolyynes, and Related Compounds in Dense Interstellar Clouds. *Eric Herbst & Chun Ming Leung.* 69, 271, 4-G5 (1989)

Deuterium Fractionation in Dense Interstellar Clouds. *T. J. Millar, A. Bennett, & Eric Herbst.* 340, 906, 79-F1 (1989)

The Submillimeter-Wave Spectrum of $^{16}O^{18}O$. *Richard L. Crownover, Frank C. De Lucia, & Eric Herbst.* 349, L29, 19-D1 (1990)

Additional Measurements and a Refined Analysis of the Millimeter- and Submillimeter-Wave Spectrum of Methanol. *Todd Anderson, Frank C. De Lucia, & Eric Herbst.* 72, 797, 16-C7 (1990)

Is Interstellar Acetone Produced by Ion-Molecule Chemistry? *Eric Herbst, Kevin Giles, & David Smith.* 358, 468, 129-D5 (1990)

The Millimeter- and Submillimeter-Wave Spectrum of $^{13}CH_3OH$ Revisited. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 74, 647, 39-C11 (1990)

HERBST, W. The Rotation Period and Inclination Angle of T Tauri. *W. Herbst, J. F. Booth, P. F. Chugainov, G. V. Zajtseva, W. Barksdale, E. Covino, L. Terranegra, A. Vittone, & F. Vrba.* 310, L71, 145-A13 (1986)

Shock-Front Compression of the Magnetic Field in the Canis Major R1 Star Formation Region. *F. J. Vrba, R. Baierlein, & W. Herbst.* 317, 207, 66-C4 (1987)

Far-Infrared Emission in the ρ Ophiuchi Region: A Comparison with Molecular Gas Emission and Visual Extinction. *T. H. Jarrett, R. L. Dickman, & W. Herbst.* 345, 881, 161-E1 (1989)

HERBST, WILLIAM. The ^{13}CO–A_V Relation at High Extinctions: The ρ Ophiuchi Complex. *Robert L. Dickman & William Herbst.* 357, 531, 119-B11 (1990)

HERCZEG, T. J. V471 Tauri: A Three-Body Orbit. *W. I. Beavers, T. J. Herczeg, & A. Lui.* 300, 785, 11-G1 (1986)

HERD, CHARLES R. OH Production in the Dissociative Recombination of H_3O^+, HCO_2^+, and N_2OH^+: Comparison with Theory and Interstellar Implications. *Charles R. Herd, Nigel G. Adams, & David Smith.* 349, 388, 18-F1 (1990)

HERELD, MARK. G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)

Near-Infrared Images of NGC 1068: Bar-driven Star Formation and the Circumnuclear Composition. *Harley A. Thronson, Jr., Mark Hereld, Steven Majewski, Matthew Greenhouse, Paul Johnson, Earl Spillar, C. E. Woodward, D. A. Harper, & Bernard J. Rauscher.* 343, 158, 120-B3 (1989)

A Subdued Interpretation of the Visual and Infrared Emission from Merging Galaxies: Application to NGC 6240. *Harley A. Thronson, Jr., S. Majewski, Lara Descartes, & Mark Hereld.* 364, 456, 201-F5 (1990)

HERISTCHI, D. Hard X-Ray and Gamma-Ray Bremsstrahlung Production by High-Energy Protons in Solar Flares. *D. Heristchi.* 311, 474, 151-B13 (1986)

Proton-Electron Bremsstrahlung Polarization: Solar Flare X-Ray and Gamma-Ray Polarization. *D. Heristchi.* 323, 391, 157-D2 (1987)

HERMAN, J. First Detection of HCN $J = 9$–8 (797 GHz) Line Emission: Very High Densities in the Orion Core. *J. Stutzki, R. Genzel, A. I. Harris, J. Herman, & D. T. Jaffe.* 330, L125, 105-A9 (1988)

HERMANS, L. M. Solar Chromospheric Modeling Based on Submillimeter Limb Brightness Profile. *L. M. Hermans & C. Lindsey.* 310, 907, 144-A1 (1986)

HERNANDEZ, ANA M. The Observed Characteristics of Flare Energy Release. I. Magnetic Structure at the Energy Release Site. *Marcos E. Machado, Ronald L. Moore, Ana M. Hernandez, Marta G. Rovira, Mona J. Hagyard, & Jesse B. Smith, Jr.* 326, 425, 37-A1 (1988)

HERNANZ, MARGARITA. The Final Stages of Evolution of Cold, Mass-accreting White Dwarfs. *Margarita Hernanz, Jordi Isern, Ramon Canal, Javier Labay, & Robert Mochkovitch.* 324, 331, 4-G3 (1988)

HERNQUIST, LARS. Shells and Dark Matter in Elliptical Galaxies. *Lars Hernquist & P. J. Quinn.* 312, 1, 1-A7 (1987)

Shell Galaxies and Alternatives to the Dark Matter Hypothesis. *Lars Hernquist & P. J. Quinn.* 312, 17, 1-B9 (1987)

Performance Characteristics of Tree Codes. *Lars Hernquist.* 64, 715, 27-F2 (1987)

Formation of Shell Galaxies. I. Spherical Potentials. *Lars Hernquist & P. J. Quinn.* 331, 682, 116-C9 (1988)

Cosmological Simulations Using the Hierarchical Tree Method. *François R. Bouchet & Lars Hernquist.* 68, 521, 31-B1 (1988)

TREESPH: A Unification of SPH with the Hierarchical Tree Method. *Lars Hernquist & Neal Katz.* 70, 419, 24-B5 (1989)

Formation and Morphology of Shell Galaxies. II. Nonspherical Potentials. *Lars Hernquist & P. J. Quinn.* 342, 1, 101-A8 (1989)

Are Some *N*-Body Algorithms Intrinsically Less Collisional than Others? *Lars Hernquist & Joshua E. Barnes.* 349, 562, 22-C5 (1990)

An Analytical Model for Spherical Galaxies and Bulges. *Lars Hernquist.* 356, 359, 104-F8 (1990)

HEROLD, H. Radiative Transfer in Fast-moving Media: The Limit of the Diffusion Approximation. *A. Rebetzky, H. Herold, U. Kraus, T. Maile, H. Ruder, & K. Wolf.* 344, L33, 140-C13 (1989)

Radiation Viscosity: Effects on X-Ray Spectra. *A. Rebetzky, H. Herold, G. Morfill, & H. Ruder.* 350, 796, 35-G8 (1990)

HERRERA, L. Propagation of a Shock Wave in a Radiating Spherically Symmetric Distribution of Matter. *L. Herrera & L. Núñez.* 319, 868, 104-D11 (1987)

Modeling "Hydrodynamic Phase Transitions" in a Radiating Spherically Symmetric Distribution of Matter. *L. Herrera & L. Núñez.* 339, 339, 54-C4 (1989)

Diffusion Processes in General Relativistic Radiating Spheres. *W. Barreto, L. Herrera, & N. O. Santos.* 344, 158, 135-A7 (1989)

Surface Phenomena and the Evolution of Radiating Fluid Spheres in General Relativity. *L. Herrera, J. Jimenez, M. Esculpi, & J. Ibáñez.* 345, 918, 162-A3 (1989)

Conformally Symmetric Spheres in the Thin Wall Approximation. *L. Herrera, J. Ibáñez, & A. Di Prisco.* 353, 579, 71-B4 (1990)

Luminosity Profiles and the Evolution of Shock Waves in General Relativistic Radiating Spheres. *L. Herrera & L. A. Núñez.* 364, 212, 196-F4 (1990)

HERRERA, M. A. Relaxation Time of Neutrinos in the Early Universe. *M. A. Herrera & S. Hacyan.* 336, 539, 9-C1 (1989)

HERRERO, A. Non–Local Thermodynamic Equilibrium Line Profiles, Rotation, and Magnetic Fields in Seven DA White Dwarfs. *D. Koester & A. Herrero.* 332, 910, 134-D5 (1988)

Evolutionary versus Dynamical Time Scales for the Evolution of the Central Stars of Planetary Nebulae. *J. K. McCarthy, J. R. Mould, R. H. Mendez, R. P. Kudritzki, D. Husfeld, A. Herrero, & H. G. Groth.* 351, 230, 40-G10 (1990)

HERSHEY, J. L. Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)

Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

HERSHKOWITZ, STEPHEN. Spectral Flux from Low-Density Photospheres: Numerical Results. *Stephen Hershkowitz, Eric Linder, & Robert V. Wagoner.* 301, 220, 16-C14 (1986)
Spectral Flux from Low-Density Photospheres: Approximate Results. *Stephen Hershkowitz, Eric Linder, & Robert V. Wagoner.* 303, 800, 51-C7 (1986)
Spectral Flux from Low-Density Photospheres: Low-Temperature Results. *Stephen Hershkowitz & Robert V. Wagoner.* 322, 967, 150-D11 (1987)
HERTER, T. Detection of Silicon in the Galactic Center. *T. Herter, J. R. Houck, P. Graf, & G. E. Gull.* 309, L13, 125-D6 (1986)
Distribution of Si II in the Galactic Center. *P. Graf, T. Herter, G. E. Gull, & J. R. Houck.* 330, 803, 101-D1 (1988)
Electron Temperatures in the High-Excitation Zones of Planetary Nebulae. *N. Rowlands, J. R. Houck, T. Herter, G. E. Gull, & M. F. Skrutskie.* 341, 901, 96-D1 (1989)
Si II Mapping of the Neutral Gas Ring in the Galactic Center: Evidence for Dust Destruction. *T. Herter, G. E. Gull, S. T. Megeath, N. Rowlands, & J. R. Houck.* 343, 696, 127-G1 (1989)
An Isolated, Well-defined Infrared Cirrus Cloud. *T. Herter, D. L. Shupe, & D. F. Chernoff.* 352, 149, 51-G6 (1990)
Infrared and Radio Measurements of the Density Structure of Compact H II Regions. *S. T. Megeath, T. Herter, G. E. Gull, & J. R. Houck.* 356, 534, 106-G13 (1990)
HERTER, TERRY. The Ni/Fe Ratio in the Crab Nebula. *Douglas Hudgins, Terry Herter, & Richard J. Joyce.* 354, L57, 86-C11 (1990)
HERTZ, P. Search for Millisecond X-Ray Pulsations from the Galactic Bulge X-Ray Source GX 9+1. *P. Hertz, J. P. Norris, K. S. Wood, B. A. Vaughan, & P. F. Michelson.* 354, 267, 77-D7 (1990)
Independence of Short Time Scale Fluctuations of Quasi-periodic Oscillations and Low-Frequency Noise in GX 5–1. *J. P. Norris, P. Hertz, K. S. Wood, B. A. Vaughan, P. F. Michelson, K. Mitsuda, & T. Dotani.* 361, 514, 164-E1 (1990)
Four X-Ray–selected Cataclysmic Variables in the Galactic Plane. *P. Hertz, C. D. Bailyn, J. E. Grindlay, M. R. Garcia, H. Cohn, & P. M. Lugger.* 364, 251, 197-B8 (1990)
Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)
HERTZ, P. L. H1722+119: A Highly Polarized X-Ray–selected BL Lacertae Object. *R. J. V. Brissenden, R. A. Remillard, I. R. Tuohy, D. A. Schwartz, & P. L. Hertz.* 350, 578, 33-D1 (1990)
HERTZ, PAUL. An 8.5 Hour X-Ray Period in the M15 X-Ray Source 4U 2129+12. *Paul Hertz.* 315, L119, 49-D14 (1987)
CCD Photometry of Globular Cluster Core Structure. I. NGC 6388, NGC 6624, and M15—One Flat Core and Two Cusps. *Phyllis M. Lugger, Haldan Cohn, Jonathan E. Grindlay, Charles D. Bailyn, & Paul Hertz.* 320, 482, 114-F8 (1987)
Search for X-Ray Emission from the Radio Lobes of Scorpius X-1. *Barry Geldzahler & Paul Hertz.* 322, 342, 141-E5 (1987)
Discovery of a 4.2 Hour X-Ray Period in GX 9+9. *Paul Hertz & Kent S. Wood.* 331, 764, 117-C5 (1988)
HERZOG, A. D. Photometric Determination of Facular Contrasts near the Solar Disk Center. *J. K. Lawrence, G. A. Chapman, & A. D. Herzog.* 324, 1184, 16-E9 (1988)
Photometric Measurements of Solar Irradiance Variations Due to Sunspots. *G. A. Chapman, A. D. Herzog, D. E. Laico, J. K. Lawrence, & M. S. Templer.* 343, 547, 124-G1 (1989)
HESSER, JAMES E. Evidence for Unusual Dynamical Effects in the Halo of NGC 5128 (Centaurus A). *James E. Hesser, Hugh C. Harris, & Gretchen L. H. Harris.* 303, L51, 53-D1 (1986)
Mass Functions for Globular Cluster Main Sequences Based on CCD Photometry and Stellar Models. *Robert D. McClure, Don A. VandenBerg, Graeme H. Smith, Gregory G. Fahlman, Harvey B. Richer, James E. Hesser, William E. Harris, Peter B. Stetson, & R. A. Bell.* 307, L49, 107-B10 (1986)
CN and CH Variations among Subgiants in the Globular Cluster 47 Tucanae. *Graeme H. Smith, Roger A. Bell, & James E. Hesser.* 341, 190, 86-C5 (1989)
Variations in $^{12}C/^{13}C$ as an Explanation for the 3883 Å CN-Bimodality among 47 Tucanae Subgiants. *Michael M. Briley, Roger A. Bell, Graeme H. Smith, & James E. Hesser.* 341, 800, 95-B6 (1989)
HESSMAN, F. V. Photometric and Spectroscopic Observations of the Eclipsing Nova-like Variable PG 1030+590 (DW Ursae Majoris). *A. W. Shafter, F. V. Hessman, & E.-H. Zhang.* 327, 248, 49-F10 (1988)
HESSMAN, FREDERIC V. The Spectrum of SS Cygni during a Dwarf Nova Eruption. *Frederic V. Hessman.* 300, 794, 11-G10 (1986)
The Exotic Helium Variable PG 1346+082. *M. A. Wood, D. E. Winget, R. E. Nather, Frederic V. Hessman, James Liebert, Donald W. Kurtz, F. Wesemael, & G. Wegner.* 313, 757, 25-B1 (1987)
HESTER, J. J. Spatial and Spectral Interpretation of a Bright Filament in the Cygnus Loop. *J. C. Raymond, J. J. Hester, D. Cox, W. P. Blair, R. A. Fesen, & T. R. Gull.* 324, 869, 13-A1 (1988)
The Circumstellar Environment of TMR-1: A Young Low-Mass Star in the Taurus Molecular Ring. *S. Terebey, C. A. Beichman, T. N. Gautier, & J. J. Hester.* 362, L63, 181-D1 (1990)
HESTER, J. JEFF. The Cygnus Loop: A Detailed Comparison of X-Ray and Optical Emission. *J. Jeff Hester & Donald P. Cox.* 300, 675, 10-E4 (1986)
A Deep Hα Image of Faint Balmer-Line Filaments in the Northeast Cygnus Loop Supernova Remnant. *J. Jeff Hester, John C. Raymond, & G. Edward Danielson.* 303, L17, 47-B7 (1986)
A Sheet Description of the Emission from Middle-aged Supernova Remnants. *J. Jeff Hester.* 314, 187, 30-A8 (1987)
The Origin and Energetics of CTB 80. *J. Jeff Hester & Shrinivas R. Kulkarni.* 331, L121, 121-G9 (1988)
Optical Imagery and Spectrophotometry of CTB 80. *J. Jeff Hester & Shrinivas R. Kulkarni.* 340, 362, 71-E4 (1989)
Extended Emission and Star Formation in I Zw 18. *Reginald J. Dufour & J. Jeff Hester.* 350, 149, 26-G8 (1990)
The Distribution of Warm Ionized Gas in NGC 891. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 352, L1, 55-A7 (1990)
Infrared and Optical Imagery of the Crab Nebula. *J. Jeff Hester, James R. Graham, Charles A. Beichman, & T. N. Gautier III.* 357, 539, 119-C7 (1990)
The Distribution of Warm Ionized Gas in NGC 891: Erratum. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 362, L35, 174-D7 (1990) (Orig. paper in 352, L1, 55-A7 (1990))
HEWAGAMA, TILAK. Observations of the 12.3-Micron Mg I Emission Line during a Major Solar Flare. *Drake Deming, Tilak Hewagama, Donald E. Jennings, Vladimir Osherovich, & Gunter Wiedemann.* 364, L49, 205-E7 (1990)
HEWETT, PAUL C. A New Wide-Separation Gravitational Lens Candidate. *Paul C. Hewett, Rachel L. Webster, Margaret E. Harding, Robert J. Jedrzejewski, Craig B. Foltz, Frederic H. Chaffee, Michael J. Irwin, & Olivier Le Fèvre.* 346, L61, 181-B12 (1989)
HEWETT, R. Rotational and Radial Velocities of T Tauri Stars. *L. Hartmann, R. Hewett, S. Stahler, & R. D. Mathieu.* 309, 275, 122-G14 (1986)
Accretion Disk Models for FU Orionis and V1057 Cygni: Detailed Comparisons between Observations and Theory. *S. J. Kenyon, L. Hartmann, & R. Hewett.* 325, 231, 21-F2 (1988)
Pre–Main-Sequence Disk Accretion in Z Canis Majoris. *L. Hartmann, S. J. Kenyon, R. Hewett, S. Edwards, K. M. Strom, S. E. Strom, & J. R. Stauffer.* 338, 1001, 46-C5 (1989)
HEWETT, ROBERT. How to Unveil a T Tauri Star. *Patrick Hartigan, Lee Hartmann, Scott Kenyon, Robert Hewett, & John Stauffer.* 70, 899, 32-D1 (1989)
HEWITT, A. A New Optical Catalog of Quasi-stellar Objects. *A. Hewitt & G. Burbidge.* 63, 1, 1-A5 (1987)
The First Addition to the New Optical Catalog of Quasi-stellar Objects. *A. Hewitt & G. Burbidge.* 69, 1, 1-B1 (1989)
The Redshift Peak at $z = 0.06$. *G. Burbidge & A. Hewitt.* 359, L33, 144-A9 (1990)
Associations between Quasi-stellar Objects and Galaxies. *G. Burbidge, A. Hewitt, J. V. Narlikar, & P. Das Gupta.* 74, 675, 40-C2 (1990)
HEWITT, J. N. The MIT–Green Bank (MG) 5 GHz Survey. *C. L. Bennett, C. R. Lawrence, B. F. Burke, J. N. Hewitt, & J. Mahoney.* 61, 1, 16-A6 (1986)
5 GHz Radio Structure and Optical Identifications of Sources from the MG Survey. II. Maps and Finding Charts. *C. R. Lawrence,*

C. L. Bennett, J. N. Hewitt, G. I. Langston, S. E. Klotz, B. F. Burke, & K. C. Turner. 61, 105, 18-A5 (1986)

The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

Radio Observations of a Candidate Cosmic String Gravitational Lens. *J. N. Hewitt, R. A. Perley, E. L. Turner, & E. M. Hu.* 356, 57, 99-F10 (1990)

HEYER, INGEBORG. Forbidden Line and Hα Profiles in T Tauri Star Spectra: A Probe of Anisotropic Mass Outflows and Circumstellar Disks. *Suzan Edwards, Sylvie Cabrit, Stephen E. Strom, Ingeborg Heyer, Karen M. Strom, & E. Anderson.* 321, 473, 127-C10 (1987)

HEYER, M. Dense Cores in Dark Clouds. V. CO Outflow. *P. C. Myers, M. Heyer, Ronald L. Snell, & P. F. Goldsmith.* 324, 907, 13-D9 (1988)

HEYER, MARK H. A Study of the Morphology and Kinematics of the Dense Gas Associated with Star-forming Regions. *Mark H. Heyer, Ronald L. Snell, Paul F. Goldsmith, Stephen E. Strom, & Karen M. Strom.* 308, 134, 109-E5 (1986)

A Survey of IRAS Point Sources in Taurus for High-Velocity Molecular Gas. *Mark H. Heyer, Ronald L. Snell, Paul F. Goldsmith, & Philip C. Myers.* 321, 370, 126-C3 (1987)

The Magnetic Evolution of the Taurus Molecular Clouds. I. Large-Scale Properties. *Mark H. Heyer, Frederick J. Vrba, Ronald L. Snell, F. P. Schloerb, Stephen E. Strom, Paul F. Goldsmith, & Karen M. Strom.* 321, 855, 133-G9 (1987)

The Magnetic Evolution of the Taurus Molecular Clouds. II. A Reduced Role of the Magnetic Field in Dense Core Regions. *Mark H. Heyer.* 324, 311, 4-E11 (1988)

The Magnetic Evolution of the Taurus Molecular Clouds. II. A Reduced Role of the Magnetic Field in the Dense Core Regions: Erratum. *Mark H. Heyer.* 329, 1039, 88-D12 (1988) (Orig. paper in 324, 311, 4-E11 (1988))

Comparison of the Far-Infrared and Carbon Monoxide Emission in Heiles' Cloud 2 and B18. *Ronald L. Snell, Mark H. Heyer, & F. Peter Schloerb.* 337, 739, 28-C1 (1989)

A CO and Far-Infrared Study of the S254–S258 Region. *Mark H. Heyer, Ronald L. Snell, James Morgan, & F. Peter Schloerb.* 346, 220, 168-G8 (1989)

HEYVAERTS, JEAN. A Magnetic Loop Model for Structure and Activity in the Galactic Center. *Jean Heyvaerts, Colin Norman, & Ralph E. Pudritz.* 330, 718, 100-D1 (1988)

The Collimation of Magnetized Winds. *Jean Heyvaerts & Colin Norman.* 347, 1055, 196-F1 (1989)

HIBBERT, A. S v Line Ratios in the Sun. *P. L. Dufton, A. Hibbert, F. P. Keenan, A. E. Kingston, & G. A. Doschek.* 300, 448, 6-A4 (1986)

Fine-Structure Populations for the ^6D Ground State of Fe II. *F. P. Keenan, A. Hibbert, P. G. Burke, & K. A. Berrington.* 332, 539, 129-A5 (1988)

HICKMAN, A. P. A Tentative Interpretation for the Difference in the Abundance Ratios HCO^+/CO and HCS^+/CS in Interstellar Space. *D. Talbi, A. P. Hickman, F. Pauzat, Y. Ellinger, & G. Berthier.* 339, 231, 52-G1 (1989)

HICKSON, P. 1343.4+2640: A Close Quasar Pair. *David Crampton, A. P. Cowley, P. Hickson, E. Kindl, R. Mark Wagner, J. Anthony Tyson, & Craig Gullixson.* 330, 184, 92-A9 (1988)

HICKSON, PAUL. Imaging Spectroscopy of Five QSOs. *Paul Hickson & J. B. Hutchings.* 312, 518, 8-E6 (1987)

Discordant Redshifts in Compact Groups of Galaxies. *Paul Hickson, Enrico Kindl, & John P. Huchra.* 329, L65, 89-B8 (1988)

Morphology of Galaxies in Compact Groups. *Paul Hickson, Enrico Kindl, & John P. Huchra.* 331, 64, 106-F6 (1988)

The Nature of Compact Groups of Galaxies. *Paul Hickson & Herbert J. Rood.* 331, L69, 121-B12 (1988)

Infrared Emission from Compact Groups of Galaxies. *Paul Hickson, T. K. Menon, G. G. C. Palumbo, & M. Persic.* 341, 679, 93-F5 (1989)

A Photometric Catalog of Compact Groups of Galaxies. *Paul Hickson, Enrico Kindl, & Jason R. Auman.* 70, 687, 29-B1 (1989)

CCD Observations of the Polarization of the Crab Nebula. *Paul Hickson & Sidney van den Bergh.* 365, 224, 209-A1 (1990)

HIGDON, J. C. Gamma-Ray Burst Size-Frequency Distributions: Spectral and Temporal Selection Effects. *J. C. Higdon & R. E. Lingenfelter.* 307, 197, 97-C1 (1986)

Density Fluctuations in the Interstellar Medium: Evidence for Anisotropic Magnetogasdynamic Turbulence. II. Stationary Structures. *J. C. Higdon.* 309, 342, 123-F1 (1986)

Gamma-Ray Constraints on ^{22}Na Yields in Nova Explosions. *J. C. Higdon & William A. Fowler.* 317, 710, 73-G2 (1987)

Application of the V/V_{max} Test to Gamma-Ray Bursts. *Maarten Schmidt, J. C. Higdon, & Geoffrey Hueter.* 329, L85, 89-C14 (1988)

Angular Distribution of 1.809 MeV Gamma Rays Generated in the Decay of ^{26}Al Produced by Galactic Novae. *J. C. Higdon & William A. Fowler.* 339, 956, 63-E3 (1989)

Apparent Spatial Uniformity of the Gamma-Ray Bursts Detected by the Konus Experiment on *Venera 11* and *Venera 12*. *J. C. Higdon & Maarten Schmidt.* 355, 13, 87-B11 (1990)

HIGDON, J. L. The Genesis of the Ring Galaxy Arp 144 (NGC 7828/29). *Marshall Joy, H. B. Ellis, Jr., E. V. Tollestrup, D. Brock, J. L. Higdon, & P. M. Harvey.* 330, L29, 96-E10 (1988)

HIGDON, JAMES L. Neutral Hydrogen Observations of Arp 144. *James L. Higdon.* 326, 146, 33-F5 (1988)

HILDEBRAND, R. H. The Polarization of the Far-Infrared Radiation from the Galactic Center. *M. W. Werner, J. A. Davidson, M. Morris, G. Novak, S. R. Platt, & R. H. Hildebrand.* 333, 729, 148-C1 (1988)

Polarization of Far-Infrared Radiation from Molecular Clouds. *G. Novak, D. P. Gonatas, R. H. Hildebrand, S. R. Platt, & M. Dragovan.* 345, 802, 160-F1 (1989)

The Far-Infrared Polarization of the Orion Nebula. *D. P. Gonatas, G. A. Engargiola, R. H. Hildebrand, S. R. Platt, X. D. Wu, J. A. Davidson, G. Novak, D. K. Aitken, & C. Smith.* 357, 132, 112-F4 (1990)

The Magnetic Field in the Dust Ring at the Center of the Galaxy. *R. H. Hildebrand, D. P. Gonatas, S. R. Platt, X. D. Wu, J. A. Davidson, M. W. Werner, G. Novak, & M. Morris.* 362, 114, 170-E3 (1990)

HILDNER, E. The Radio Signatures of a Slow Coronal Mass Ejection: Electron Acceleration at Slow-Mode Shocks? *M. Kundu, N. Gopalswamy, S. White, P. Cargill, E. J. Schmahl, & E. Hildner.* 347, 505, 188-C3 (1989)

HILL, FRANK. On the Expansion of the Rotational Eigenfrequencies in Legendre Polynomials. *Bernard R. Durney, Frank Hill, & Philip R. Goode.* 326, 486, 37-E11 (1988)

Rings and Trumpets—Three-dimensional Power Spectra of Solar Oscillations. *Frank Hill.* 333, 996, 151-C8 (1988)

Solar Oscillation Ring Diagrams and Large-Scale Flows. *Frank Hill.* 343, L69, 132-D10 (1989)

HILL, G. J. IRAS 04238+5336: A Young Reflection Nebula Surrounding a Double Star. *C. G. Wynn-Williams, J. N. Heasley, D. L. DePoy, G. J. Hill, & E. E. Becklin.* 304, 409, 58-C12 (1986)

The Reddening of Cygnus A from a Measurement of Paschen-Alpha. *S. J. Lilly & G. J. Hill.* 315, L103, 49-C12 (1987)

IRAS 23060+0505: A Highly Obscured 3.3×10^{12} $L_\odot$ Active Galaxy. *G. J. Hill, C. G. Wynn-Williams, & E. E. Becklin.* 316, L11, 56-A14 (1987)

Infrared Sizes and Colors of Selected *IRAS* Galaxies. *G. J. Hill, E. E. Becklin, & C. G. Wynn-Williams.* 330, 737, 100-E6 (1988)

The Nature of the Extended Emission Features in IRAS 04210+0400. *G. J. Hill, C. G. Wynn-Williams, E. E. Becklin, & J. W. MacKenty.* 335, 93, 171-C3 (1988)

HILL, G. M. Interdependence of the 4430 Å Diffuse Interstellar Band, Polarization, and Ultraviolet Extinction. *J. Krełowski, G. A. H. Walker, G. R. Grieve, & G. M. Hill.* 316, 449, 55-A3 (1987)

About the Eclipsing Wolf-Rayet Binary HD 214419, CQ Cephei. *A. B. Underhill, K. K. Gilroy, & G. M. Hill.* 351, 651, 48-C1 (1990)

A Possible Meaning of the Spectrum of HD 191765, WN6. *A. B. Underhill, K. K. Gilroy, G. M. Hill, & N. Dinshaw.* 351, 666, 48-D3 (1990)

Rapid Line-Profile Variations of the Be Star ζ Tauri. *S. Yang, G. A. H. Walker, G. M. Hill, & P. Harmanec.* 74, 595, 38-E11 (1990)

HILL, H. A. The Radial Dependence of the $P_2(\cos\theta)$ Component and the Scale Height of the $P_4(\cos\theta)$ Component of the Internal

Rotation of the Sun. *H. A. Hill, G. F. Rabaey, D. S. Yakowitz, & R. D. Rosenwald.* 310, 444, 136-G1 (1986)

The Observed Properties of the Intermediate-Degree Gravity Modes. *G. F. Rabaey & H. A. Hill.* 362, 734, 180-A1 (1990)

HILL, HENRY A. Comparison of Differential Infrared and Differential Radius Observations of the Solar 160 Minute Period Oscillation. *Henry A. Hill.* 303, 489, 46-D7 (1986)

Interpretation and Implications of Diameter and Differential Radius Observations of the 160 Minute Period Solar Oscillation. *Henry A. Hill, Jonathan Tash, & Clem Padin.* 304, 560, 60-A9 (1986)

HILL, J. ALLEN. Detection of Superhumps and Quasi-periodic Oscillations in the Light Curve of the Dwarf Nova SW Ursae Majoris. *Edward L. Robinson, Allen W. Shafter, J. Allen Hill, Matt A. Wood, & Janet A. Mattei.* 313, 772, 25-C2 (1987)

Two Extreme Examples of Compact Pulsators: PG 1115+158 and PG 1351+489. *D. E. Winget, R. E. Nather, & J. Allen Hill.* 316, 305, 53-C11 (1987)

HILL, JESSE K. Images in the Rocket Ultraviolet: UV Fluxes of M31 Globular Clusters. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, & Theodore P. Stecher.* 334, 657, 163-E8 (1988)

Images in the Rocket Ultraviolet: Star Formation and Extinction in the M51 System. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert W. O'Connell, & Theodore P. Stecher.* 352, 55, 50-F13 (1990)

Images in the Rocket Ultraviolet: Young Clusters in H II Regions of M83. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, & Theodore P. Stecher.* 363, 154, 184-A9 (1990)

HILL, JOHN M. Peculiar Velocities of cD Galaxies: MX Spectroscopy of Abell 1795. *John M. Hill, Paul Hintzen, W. R. Oegerle, W. Romanishin, M. P. Lesser, J. D. Eisenhamer, & D. J. Batuski.* 332, L23, 129-C13 (1988)

HILL, ROBERT S. Vacuum Ultraviolet Images of the Large Magellanic Cloud. *Andrew M. Smith, Robert M. Cornett, & Robert S. Hill.* 320, 609, 116-C9 (1987)

Images in the Rocket Ultraviolet: UV Fluxes of M31 Globular Clusters. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, & Theodore P. Stecher.* 334, 657, 163-E8 (1988)

Vacuum Ultraviolet Images of the Large Magellanic Cloud: Erratum. *Andrew M. Smith, Robert H. Cornett, & Robert S. Hill.* 355, 746, 97-G6 (1990) (Orig. paper in 320, 609, 116-C9 (1987))

HILLAS, A. M. TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

HILLDRUP, K. C. Radio Source Counts at 6 Centimeters to 0.1 Millijanskys. *R. B. Partridge, K. C. Hilldrup, & M. I. Ratner.* 308, 46, 108-E4 (1986)

HILLEBRANDT, WOLFGANG. The Production of ^{26}Al in Supermassive Stars and the Gamma-Ray Line Flux from the Galactic Center. *Wolfgang Hillebrandt, Friedrich-Karl Thielemann, & Norbert Langer.* 321, 761, 132-G7 (1987)

HILLIARD, L. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

HILLIER, D. J. Modeling the Extended Atmospheres of WN Stars. *D. J. Hillier.* 63, 947, 15-F8 (1987)

An Empirical Model for the Wolf-Rayet Star HD 50896. *D. J. Hillier.* 63, 965, 15-G12 (1987)

Atomic and Molecular Line Emission from Early-Type High-Luminosity Stars. *P. J. McGregor, A. R. Hyland, & D. J. Hillier.* 324, 1071, 15-C7 (1988)

The Formation of Nitrogen and Carbon Emission Lines in HD 50896 (WN5). *D. J. Hillier.* 327, 822, 57-E13 (1988)

CO Overtone Emission from Magellanic Cloud Supergiants. *Peter J. McGregor, D. J. Hillier, & A. R. Hyland.* 334, 639, 163-D4 (1988)

WC Stars: Hot Stars with Cold Winds. *D. J. Hillier.* 347, 392, 187-A1 (1989)

HILLS, J. G. Three-dimensional Hydrodynamical Simulations of Stellar Collisions. I. Equal-Mass Main-Sequence Stars. *W. Benz & J. G. Hills.* 323, 614, 161-D9 (1987)

Three-dimensional Hydrodynamical Simulations of Stellar Collision. II. White Dwarfs. *W. Benz, J. G. Hills, & F.-K. Thielemann.* 342, 986, 114-E1 (1989)

HILLS, R. E. Detection of an Isotopic Short Submillimeter CO Line: Column Densities of Warm Gas in Molecular Clouds. *U. U. Graf, R. Genzel, A. I. Harris, R. E. Hills, A. P. G. Russell, & J. Stutzki.* 358, L49, 133-C8 (1990)

HILLS, RICHARD. High Angular Resolution Submillimeter Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, Richard Hills, & Joan Lasenby.* 350, 186, 27-D1 (1990)

Submillimeter Observations of the Sun from the James Clerk Maxwell Telescope. *Charles A. Lindsey, Selwyn Yee, Thomas L. Roellig, Richard Hills, David Brock, William Duncan, Graeme Watt, Adrian Webster, & John T. Jefferies.* 353, L53, 73-C6 (1990)

HILS, D. Gravitational Radiation from the Galaxy. *D. Hils, P. L. Bender, & R. F. Webbink.* 360, 75, 146-A6 (1990)

HINDSLEY, R. B. The Period-Luminosity Relation for Cepheid Variable Stars. *R. B. Hindsley & R. A. Bell.* 341, 1004, 97-E8 (1989)

The Cepheid Infrared Period-Luminosity Relations. *R. B. Hindsley & R. A. Bell.* 348, 673, 11-A7 (1990)

HINE, A. A. Radar Observations of Comet IRAS-Araki-Alcock 1983d. *J. K. Harmon, D. B. Campbell, A. A. Hine, I. I. Shapiro, & B. G. Marsden.* 338, 1071, 47-A6 (1989)

HINE, B. P. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

The Whole Earth Telescope: A New Astronomical Instrument. *R. E. Nather, D. E. Winget, J. C. Clemens, C. J. Hansen, & B. P. Hine.* 361, 309, 160-F11 (1990)

HINE, BUTLER. A Comparison of Spiral Tracers in M81. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 345, 674, 159-B1 (1989)

A Comparison of Spiral Tracers in M81: Erratum. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 354, 387, 79-A10 (1990) (Orig. paper in 345, 674, 159-B1 (1989))

HINE, BUTLER P. Detection of the Optical Counterparts of the 555 Second X-Ray Pulsations from V471 Tauri. *Edward L. Robinson, J. Christopher Clemens, & Butler P. Hine.* 331, L29, 114-C6 (1988)

HINES, B. E. Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)

Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

HINES, DEAN C. Filaments in the Radio Lobes of M87. *Dean C. Hines, Frazer N. Owen, & Jean A. Eilek.* 347, 713, 192-B11 (1989)

HINKLE, K. H. Velocity Structure of Stellar Atmospheres: R Scuti. *David Mozurkewich, R. D. Gehrz, K. H. Hinkle, & D. L. Lambert.* 314, 242, 30-F12 (1987)

HINKLE, KENNETH H. The Chemical Composition of Carbon Stars. I. Carbon, Nitrogen, and Oxygen in 30 Cool Carbon Stars in the Galactic Disk. *David L. Lambert, Bengt Gustafsson, Kjell Eriksson, & Kenneth H. Hinkle.* 62, 373, 36-C6 (1986)

Two Micron CO Absorption Lines in the Spectrum of Epsilon Aurigae during Eclipse. *Kenneth H. Hinkle & Theodore Simon.* 315, 296, 43-B9 (1987)

Oxygen Isotopic Abundances in Evolved Stars. III. 26 Carbon Stars. *Michael J. Harris, David L. Lambert, Kenneth H. Hinkle, Bengt Gustafsson, & Kjell Eriksson.* 316, 294, 53-B14 (1987)

C_2H in the 2 Micron Infrared Spectrum of IRC +10216. *John J. Keady & Kenneth H. Hinkle.* 331, 539, 112-D3 (1988)

The Peculiar Supergiant HR 4049. *David L. Lambert, Kenneth H. Hinkle, & R. Earle Luck.* 333, 917, 150-D1 (1988)

HINSHAW, GARY. Gravitational Lensing by Isothermal Spheres with Finite Core Radii: Galaxies and Dark Matter. *Gary Hinshaw & Lawrence M. Krauss.* 320, 468, 114-E7 (1987)

HINTON, RICHARD W. Large Negative ^{50}Ti Anomalies in Refractory Inclusions from the Murchison Carbonaceous Chondrite: Evidence for Incomplete Mixing of Neutron-rich Supernova Ejecta into the Solar System. *Richard W. Hinton, Andrew M. Davis, & Debra E. Scatena-Wachel.* 313, 420, 19-E12 (1987)

HINTZEN, PAUL. Detection of a "Rotating" Gas Cloud 100 Kiloparsecs in Diameter Surrounding 3C 275.1, a Quasar at the Center of a Rich Cluster of Galaxies. *Paul Hintzen & John Stocke.* 308, 540, 114-G1 (1986)

Direct Imaging of the Extremely Large Host Galaxy and Gas Cloud Surrounding the Quasar 3C 275.1. *Paul Hintzen & W. Romanishin.* 311, L1, 152-A4 (1986)

A 2 Kiloparsec Accretion Disk (?) inside a 17 Kiloparsec Hα Bar in the Cooling Flow Cluster 2S 0335+096. *W. Romanishin & Paul Hintzen.* 324, L17, 9-B4 (1988)

Peculiar Velocities of cD Galaxies: MX Spectroscopy of Abell 1795. *John M. Hill, Paul Hintzen, W. R. Oegerle, W. Romanishin, M. P. Lesser, J. D. Eisenhamer, & D. J. Batuski.* 332, L23, 129-C13 (1988)

A Spiral Galaxy at $z = 0.366$ Which Overlaps the Image of the Quasar 4C 39.47. *Paul Hintzen, W. Romanishin, Craig Foltz, & William Keel.* 337, L5, 25-A10 (1989)

The Structure of Host Galaxies of Radio-loud Quasars and Possible Triggering Mechanisms for Quasar Activity. *W. Romanishin & Paul Hintzen.* 341, 41, 84-E1 (1989)

Three Very Cool Degenerate Stars in Luyten Common Proper-Motion Binaries: Implications for the Age of the Galactic Disk. *Paul Hintzen, Terry D. Oswalt, James Liebert, & Edward M. Sion.* 346, 454, 171-F8 (1989)

CCD Imagery of Planetary Nuclei: The Properties of the Central Stars of NGC 2440 and NGC 7027. *Sara R. Heap & Paul Hintzen.* 353, 200, 64-E9 (1990)

HINTZEN, PAUL M. Identifications and Limited Spectroscopy for Luyten Common Proper-Motion Stars with Probable White Dwarf Components. I. Pairs Brighter than 17th Magnitude. *Terry D. Oswalt, Paul M. Hintzen, & Willem J. Luyten.* 66, 391, 8-E1 (1988)

L151-81A/B: A Unique White Dwarf Binary with DB and DA Components. *Terry D. Oswalt, Paul M. Hintzen, James W. Liebert, & Edward M. Sion.* 333, L87, 152-F5 (1988)

HINZ, A. Laboratory Measurement of the Rotational Spectrum of the OH Radical with Tunable Far-Infrared Radiation. *J. M. Brown, L. R. Zink, D. A. Jennings, K. M. Evenson, A. Hinz, & I. G. Nolt.* 307, 410, 99-E6 (1986)

HIRABAYASHI, H. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

First Images of Water Vapor Masers in the Galaxy M33. *L. J. Greenhill, J. M. Moran, M. J. Reid, C. R. Gwinn, K. M. Menten, A. Eckart, & H. Hirabayashi.* 364, 513, 202-E1 (1990)

HIRAHARA, YASUHIRO. Detection of Five ^{13}C Isotopic Species of HC_5N in TMC-1. *Shuro Takano, Hiroko Suzuki, Masatoshi Ohishi, Shin-ichi Ishikawa, Norio Kaifu, Yasuhiro Hirahara, & Akimasa Masuda.* 361, L15, 161-D11 (1990)

HIRANO, N. Expanding Molecular Torus around the Planetary Nebula IRAS 21282+5050. *K. M. Shibata, S. Tamura, S. Deguchi, N. Hirano, O. Kameya, & T. Kasuga.* 345, L55, 157-E9 (1989)

HIRANO, NAOMI. Bipolar Outflow in B335. *Naomi Hirano, Osamu Kameya, Masatoshi Nakayama, & Keiya Takakubo.* 327, L69, 61-D1 (1988)

G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)

High-Velocity Flows in the NGC 7538 Molecular Cloud. *Osamu Kameya, Tatsuhiko I. Hasegawa, Naomi Hirano, Keiya Takakubo, & Munezo Seki.* 339, 222, 52-F5 (1989)

HIRATA, K. S. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

HIROMOTO, N. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

HIROMOTO, NORIHISA. A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)

HIROTANI, KOUICHI. The Rapid Burster: A Weakly Magnetized Neutron Star. *Tomoyuki Hanawa, Kouichi Hirotani, & Nobuyuki Kawai.* 336, 920, 14-A1 (1989)

An Interpretation of X-Ray Spectra of Type II Bursts from the "Rapid Burster": Comptonization Due to Accretion Flow. *Kouichi Hirotani, Tomoyuki Hanawa, & Nobuyuki Kawai.* 355, 577, 95-F11 (1990)

HJALMARSON, Å. Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

HJALMARSON, ÅKE. Interstellar HCO: Detection of the Missing 3 Millimeter Quartet. *M. S. Schenewerk, L. E. Snyder, & Åke Hjalmarson.* 303, L71, 53-E6 (1986)

Variations in the HCN/HNC Abundance Ratio in the Orion Molecular Cloud. *Paul F. Goldsmith, William M. Irvine, Åke Hjalmarson, & Joel Elldér.* 310, 383, 136-B10 (1986)

HJELLMING, MICHAEL S. Thresholds for Rapid Mass Transfer in Binary System. I. Polytropic Models. *Michael S. Hjellming & Ronald F. Webbink.* 318, 794, 89-E10 (1987)

HJELLMING, R. M. Radio Observations of the 1985 Outburst of RS Ophiuchi. *R. M. Hjellming, J. H. van Gorkom, E. R. Seaquist, A. R. Taylor, S. Padin, R. J. Davis, & M. F. Bode.* 305, L71, 80-D9 (1986)

The 1983 September Radio Outburst of Cygnus X-3: Relativistic Expansion at 0.35c. *R. E. Spencer, R. W. Swinney, K. J. Johnston, & R. M. Hjellming.* 309, 694, 128-G7 (1986)

Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

Refractive Interstellar Scintillation in 1741−038. *R. M. Hjellming & Ramesh Narayan.* 310, 768, 142-C12 (1986)

Radio Emission from Conical Jets Associated with X-Ray Binaries. *R. M. Hjellming & K. J. Johnston.* 328, 600, 69-F4 (1988)

Transient Radio Emission from the X-Ray Nova ASM 2000+25. *R. M. Hjellming, T. A. Calovini, Xiao Hong Han, & F. A. Córdova.* 335, L75, 185-D10 (1988)

Soft X-Ray Emission from the Radio Pulsar PSR 0656+14. *F. A. Córdova, R. M. Hjellming, K. O. Mason, & J. Middleditch.* 345, 451, 154-F8 (1989)

Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)

HO, C. Energetic Radiation from Rapidly Spinning Pulsars. I. Outer Magnetosphere Gaps. *K. S. Cheng, C. Ho, & M. Ruderman.* 300, 500, 8-E10 (1986)

Energetic Radiation from Rapidly Spinning Pulsars. II. Vela and Crab. *K. S. Cheng, C. Ho, & M. Ruderman.* 300, 522, 8-G5 (1986)

HO, CHENG. High-Luminosity Accretion in Wind-driven Binary X-Ray Sources. *Cheng Ho & Jonathan Arons.* 316, 283, 53-B3 (1987)

Fluctuation of Wind-driven Accretion in X-Ray Binaries. *Cheng Ho & Jonathan Arons.* 321, 404, 126-E11 (1987)

Spectra of Crab-like Pulsars. *Cheng Ho.* 342, 396, 105-F4 (1989)

Inverse-Compton Spectra for Gamma-Ray Bursts: Suppressing the Soft Photons. *Cheng Ho & Richard I. Epstein.* 343, 277, 121-E12 (1989)

Escape of Beamed Emission from Gamma-Ray Bursts on Magnetized Neutron Stars. *Cheng Ho, Richard I. Epstein, & Edward E. Fenimore.* 348, L25, 6-C6 (1990)

HO, P. T. P. The Double Radio Source Associated with L1551 IRS 5: Binary System or Ionized Circumstellar Torus? *L. F. Rodríguez, J. Cantó, J. M. Torrelles, & P. T. P. Ho.* 301, L25, 20-C10 (1986)

NH_3 Observations of Compressed Postshock Molecular Gas in Ionization-Shock Fronts around W33. *E. R. Keto & P. T. P. Ho.* 347, 349, 186-D3 (1989)

HO, PAUL T. P. Molecular Clouds Associated with Compact H II Regions. III. Spin-up and Collapse in the Core of G10.6−0.4. *Paul T. P. Ho & Aubrey D. Haschick.* 304, 501, 59-D6 (1986)

Formation of OB Clusters: Radiation-driven Implosion? *Paul T. P. Ho, Richard I. Klein, & Aubrey D. Haschick.* 305, 714, 76-F3 (1986)

The Kinematic Temperature Gradient and the Structure of a Thin Molecular Disk in Cepheus A. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 305, 721, 76-F10 (1986)

Ammonia Observations of Regions with Molecular Outflows. *José M. Torrelles, Paul T. P. Ho, James M. Moran, Luis F. Rodríguez, & Jorge Cantó.* 307, 787, 105-E9 (1986)

Hot Gas in the Nucleus of IC 342. *Robert N. Martin & Paul T. P. Ho.* 308, L7, 113-F2 (1986)

Infrared Spectroscopy of Star Formation in Interacting Galaxies. *Sara C. Beck, Jean L. Turner, & Paul T. P. Ho.* 309, 70, 120-F14 (1986)

Recombination Spectroscopy of Star-Formation Regions in the Nucleus of M83. *Jean L. Turner, Paul T. P. Ho, & Sara C. Beck.* 313, 644, 23-G2 (1987)

Temperature and Density Structure of the Collapsing Core of G10.6−0.4. *Eric R. Keto, Paul T. P. Ho, & Aubrey D. Haschick.* 318, 712, 88-F8 (1987)

H_2O Maser Emission from the Nuclei of NGC 253 and M51. *Paul T. P. Ho, Robert N. Martin, Christian Henkel, & Jean L. Turner.* 320, 663, 117-A12 (1987)

Interaction of the High-Density Gas with the Bipolar Outflow in Cepheus A. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & James M. Moran.* 321, 884, 134-C1 (1987)

Hot Gas in the Nucleus of IC 342: Detection of J = 3–2 CO Emission. *Paul T. P. Ho, Jean L. Turner, & Robert N. Martin.* 322, L67, 152-B3 (1987)

Gravitational Collapse in Molecular Cloud Cores around Ultracompact H II Regions: Two Candidates. *Eric R. Keto, Paul T. P. Ho, & Mark J. Reid.* 323, L117, 164-C1 (1987)

Elongated CO Structure in the Starburst Galaxy NGC 2146. *James M. Jackson & Paul T. P. Ho.* 324, L5, 9-A7 (1988)

The Observed Structure of the Accretion Flow around G10.6−0.4. *Eric R. Keto, Paul T. P. Ho, & Aubrey D. Haschick.* 324, 920, 13-E8 (1988)

A Rotating Circumstellar Molecular Disk Surrounding NGC 6334 I. *James M. Jackson, Paul T. P. Ho, & Aubrey D. Haschick.* 333, L73, 152-E5 (1988)

CO in Optically Selected Starburst Galaxies. *James M. Jackson, Ronald L. Snell, Paul T. P. Ho, & Alan H. Barrett.* 337, 680, 27-D10 (1989)

Ammonia Observations of Outflow Regions. *Guillem Anglada, Luis F. Rodríguez, José M. Torrelles, Robert Estalella, Paul T. P. Ho, Jorge Cantó, Rosario López, & Lourdes Verdes-Montenegro.* 341, 208, 86-E1 (1989)

NH_3 Observations of the AFGL 2591 Region: A Possible Cavity in the Molecular Cloud. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 343, 222, 121-A5 (1989)

Excess 10 Micron Emission in Extragalactic Nuclei. *Paul T. P. Ho, Jean L. Turner, Giovanni G. Fazio, & S. P. Willner.* 344, 135, 134-F8 (1989)

Further Studies of the Role of Dense Molecular Clouds around Outflow Sources. *Lourdes Verdes-Montenegro, José M. Torrelles, Luis F. Rodríguez, Guillem Anglada, Rosario López, Robert Estalella, Jorge Cantó, & Paul T. P. Ho.* 346, 193, 168-E1 (1989)

VLA Observations of Ammonia and Continuum in Regions with High-Velocity Gaseous Outflows. II. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & Lourdes Verdes-Montenegro.* 346, 756, 176-F8 (1989)

Far-Infrared and Radio Observations of the W31 Star-forming Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, R. R. Daniel, & Paul T. P. Ho.* 347, 338, 186-C3 (1989)

Brackett Line Spectroscopy of Bursts of Star Formation in the Nuclei of Galaxies. *Paul T. P. Ho, Sara C. Beck, & Jean L. Turner.* 349, 57, 14-F6 (1990)

Monoceros R2: Interactions of a Molecular Cloud Core with a Stellar Wind? *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 349, 529, 21-G8 (1990)

Hot Gas in the Nucleus of M82: ^{12}CO and ^{13}CO J = 3–2 Observations. *Jean L. Turner, Robert N. Martin, & Paul T. P. Ho.* 351, 418, 45-C5 (1990)

Formation of OB Clusters: Detection of SiO v=0, J=1–0 Emission as an Indicator of Compact Outflow Sources. *Aubrey D. Haschick & Paul T. P. Ho.* 352, 630, 58-G7 (1990)

VLA Observations of the Herbig-Haro 1-2 System. *Luis F. Rodríguez, Paul T. P. Ho, José M. Torrelles, Salvador Curiel, & Jorge Cantó.* 352, 645, 59-A11 (1990)

VLA Imaging of Extragalactic Ammonia: Hot Gas in the Nucleus of IC 342. *Paul T. P. Ho, Robert N. Martin, Jean L. Turner, & James M. Jackson.* 355, L19, 92-C1 (1990)

15 GHz Compact Structure in Galactic Nuclei. *Patricia Carral, Jean L. Turner, & Paul T. P. Ho.* 362, 434, 175-G8 (1990)

HO, Y. K. Collision Strengths for the Intercombination Lines of S III. *Y. K. Ho & Ronald J. W. Henry.* 303, 797, 51-C4 (1986)

Collision Strengths for Dipole-allowed Transitions in S II. *Y. K. Ho & Ronald J. W. Henry.* 351, 701, 48-G3 (1990)

HOBAN, SUSAN. An Analysis of G-Band Strengths in NGC 6397 and M55 Red Giants. *Michael M. Briley, R. A. Bell, Susan Hoban, & R. J. Dickens.* 359, 307, 139-G10 (1990)

HOBBS, L. M. The Extent of the Local H I Halo. *Felix J. Lockman, L. M. Hobbs, & J. Michael Shull.* 301, 380, 18-A8 (1986)
A Molecular Cloud in the Local, Hot Interstellar Medium. *L. M. Hobbs, L. Blitz, & L. Magnani.* 306, L109, 94-C1 (1986)
Observations of Gaseous Circumstellar Disks. III. *L. M. Hobbs.* 308, 854, 118-C5 (1986)
Lithium in NGC 752. *L. M. Hobbs & Catherine Pilachowski.* 309, L17, 125-D10 (1986)
Lithium in M67. *L. M. Hobbs & Catherine Pilachowski.* 311, L37, 160-B5 (1986)
The Lithium Abundance in Halo Stars. *L. M. Hobbs & Douglas K. Duncan.* 317, 796, 74-F10 (1987)
Lithium in an Extreme Halo Star. *L. M. Hobbs & Catherine Pilachowski.* 326, L23, 38-C2 (1988)
On the Nearest Molecular Clouds. II. MBM 12 and 16. *L. M. Hobbs, L. Blitz, B. E. Penprase, L. Magnani, & D. E. Welty.* 327, 356, 50-G10 (1988)
The Location of the Ca II Ions in the Beta Pictoris Disk. *L. M. Hobbs, A. M. Lagrange-Henri, R. Ferlet, A. Vidal-Madjar, & D. E. Welty.* 334, L41, 161-E1 (1988)
Lithium in Old Open Clusters: NGC 188. *L. M. Hobbs & Catherine Pilachowski.* 334, 734, 164-E1 (1988)
A Search for ^{6}Li in the Galactic Halo. *Catherine A. Pilachowski, L. M. Hobbs, & David S. De Young.* 345, L39, 157-D6 (1989)
On the Nearest Molecular Clouds. III. MBM 40, 53, 54, and 55. *D. E. Welty, L. M. Hobbs, L. Blitz, & B. E. Penprase.* 346, 232, 169-A8 (1989)
On Lithium Removal from G Dwarfs. *L. M. Hobbs, Icko Iben, Jr., & Catherine Pilachowski.* 347, 817, 193-E1 (1989)
On Lithium Removal from G Dwarfs: Erratum. *L. M. Hobbs, Icko Iben, Jr., & Catherine Pilachowski.* 355, 745, 97-G5 (1990) (Orig. paper in 347, 817, 193-E1 (1989))
HODAPP, K.-W. Infrared Spectroscopy, Imaging, and 10 Micron Photometry of Giclas 29-38. *A. T. Tokunaga, K.-W. Hodapp, E. E. Becklin, D. P. Cruikshank, M. Rigler, D. Toomey, R. H. Brown, & B. Zuckerman.* 332, L71, 137-D1 (1988)
Infrared Array Imaging and Spectrophotometry of the Nuclear Region of the "Hot Spot" Galaxy NGC 2903. *D. A. Simons, D. L. DePoy, E. E. Becklin, R. W. Capps, K.-W. Hodapp, & D. N. B. Hall.* 335, 126, 171-F9 (1988)
High-Resolution Infrared Mapping of the Galactic Center: Imaging and Lunar Occultations. *D. A. Simons, K.-W. Hodapp, & E. E. Becklin.* 360, 106, 146-D1 (1990)
The Subarcsecond Infrared Structures at the Centers of Infrared-luminous Galaxies. *S. A. Eales, E. E. Becklin, K.-W. Hodapp, D. A. Simons, & C. G. Wynn-Williams.* 365, 478, 214-A12 (1990)
HODAPP, KLAUS-WERNER. The Magnetic Field in Star-forming Large Globules. *Klaus-Werner Hodapp.* 319, 842, 104-B13 (1987)
Infrared Images and Spectroscopy of the Bipolar Source IRAS 09371+1212. *Klaus-Werner Hodapp, K. Sellgren, & Tetsuya Nagata.* 326, L61, 46-C1 (1988)
Near-Infrared Imaging of Lynds 1551 IRS 5. *Klaus-Werner Hodapp, Richard W. Capps, Stephen E. Strom, Luis Salas, & Gary L. Grasdalen.* 335, 814, 181-E8 (1988)
Magnetic Field and Spatial Structure of Bipolar Outflow Sources. *Klaus-Werner Hodapp.* 352, 184, 52-C4 (1990)
HODGE, P. E. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)
Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)
Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)
HODGE, P. W. Giant H II Regions in M81. *Michele Kaufman, Frank N. Bash, R. C. Kennicutt, Jr., & P. W. Hodge.* 319, 61, 93-F7 (1987)
Oxygen Abundances in Nearby Dwarf Irregular Galaxies. *Evan D. Skillman, R. C. Kennicutt, & P. W. Hodge.* 347, 875, 194-C11 (1989)
HODGE, PAUL. CCD Photometry of Large Magellanic Cloud Clusters. II. The Intermediate-Age Cluster H4. *Mario Mateo & Paul Hodge.* 60, 893, 14-B1 (1986)
CCD Photometry of Large Magellanic Cloud Clusters. III. The Unique, Remote Cluster ESO 121-SC03. *Mario Mateo, Paul Hodge, & R. A. Schommer.* 311, 113, 147-C4 (1986)
CCD Photometry of Large Magellanic Cloud Clusters. IV. The Metal-rich, Remote Southern Cluster LW 79. *Mario Mateo & Paul Hodge.* 320, 626, 116-D14 (1987)
UBVR CCD Photometry of Stars in M31. I. Baade's Field IV. *Paul Hodge, Myung G. Lee, & Mario Mateo.* 324, 172, 3-A7 (1988)
UBVR CCD Photometry of Stars in M31. II. Five Disk Fields. *Paul Hodge & Myung Gyoon Lee.* 329, 651, 83-G3 (1988)
Ultraviolet Observations of NGC 205. *Eric M. Wilcots, Paul Hodge, Paul B. Eskridge, Francesco Bertola, & Lucio Buson.* 364, 87, 195-A13 (1990)
HODGE, PAUL W. H II Regions and Star Formation in the Magellanic Clouds. *Robert C. Kennicutt, Jr., & Paul W. Hodge.* 306, 130, 82-F7 (1986)
Properties of H II Region Populations in Galaxies. II. The H II Region Luminosity Function. *Robert C. Kennicutt, Jr., B. Kevin Edgar, & Paul W. Hodge.* 337, 761, 28-D10 (1989)
A Comparison of Spiral Tracers in M81. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 345, 674, 159-B1 (1989)
A Comparison of Spiral Tracers in M81: Erratum. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 354, 387, 79-A10 (1990) (Orig. paper in 345, 674, 159-B1 (1989))
The H II Regions of M101. I. An Atlas of 1264 Emission Regions. *Paul W. Hodge, Mark Gurwell, Jeffrey D. Goldader, & Robert C. Kennicutt, Jr.* 73, 661, 26-F13 (1990)
HODGE, W. L. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2-2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)
Laboratory Study of the Spectrum of Highly Ionized Calcium in the 100–250 Å Range Applied to Solar Flare Diagnostics. *S. Lippmann, M. Finkenthal, L. K. Huang, H. W. Moos, B. C. Stratton, T. L. Yu, A. K. Bhatia, & W. L. Hodge.* 316, 819, 61-A11 (1987)
HODGES, M. W. The Structure of Compact Double Radio Sources: 610 MHz VLBI Observations of 1518+047 and 2050+364. *R. L. Mutel & M. W. Hodges.* 307, 472, 101-G3 (1986)
Superluminal Motion in the Quasar 3C 279. *S. C. Unwin, M. H. Cohen, J. A. Biretta, M. W. Hodges, & J. A. Zensus.* 340, 117, 68-E6 (1989)
223 GHz VLBI Observations of 3C 273. *S. Padin, D. P. Woody, M. W. Hodges, A. E. E. Rogers, D. T. Emerson, P. R. Jewell, J. Lamb, A. Perfetto, & M. C. H. Wright.* 360, L11, 149-C2 (1990)
HOEKSEMA, J. T. Rotation of the Coronal Magnetic Fields. *J. T. Hoeksema & P. H. Scherrer.* 318, 428, 83-E12 (1987)
Rotation of the Photospheric Magnetic Fields: A North-South Asymmetry. *E. Antonucci, J. T. Hoeksema, & P. H. Scherrer.* 360, 296, 148-F3 (1990)
HOESSEL, J. G. Photometry of Resolved Galaxies. V. NGC 6822. *J. G. Hoessel & Nels Anderson.* 60, 507, 7-D4 (1986)
A Systematic Survey for Distant Galaxy Clusters. *J. E. Gunn, J. G. Hoessel, & J. B. Oke.* 306, 30, 81-C10 (1986)
The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

HOESSEL, JOHN G. Interacting Binary Galaxies. III. Observations of NGC 1587/1588 and NGC 7236/7237. *Kirk D. Borne & John G. Hoessel.* 330, 51, 90-E4 (1988)
Interacting Binary Galaxies. V. NGC 4782/4783 (3C 278): Unbound Colliders, Not a Supermassive Pair. *Kirk D. Borne, Marc Balcells, & John G. Hoessel.* 333, 567, 146-C1 (1988)
Interacting Binary Galaxies. VI. The Fast Encounter of NGC 2672 and NGC 2673 (Karachentsev 175, Arp 167). *Marc Balcells, Kirk D. Borne, & John G. Hoessel.* 336, 655, 10-E10 (1989)
HOFFMAN; G. LYLE. H I Detection Survey of a Complete Magnitude-limited Sample of Dwarf Irregular Galaxies in the Virgo Cluster Area. *G. Lyle Hoffman, George Helou, E. E. Salpeter, John Glosson, & A. Sandage.* 63, 247, 4-A5 (1987)
Comparative Properties of Virgo Cluster Dwarf Irregulars and Spirals. *G. Lyle Hoffman, George Helou, & E. E. Salpeter.* 324, 75, 1-F12 (1988)
H I Observations in the Virgo Cluster Area. III. All "Member" Spirals. *G. Lyle Hoffman, B. M. Lewis, George Helou, E. E. Salpeter, & Hayes L. Williams.* 69, 65, 1-G1 (1989)
Blue Compact Dwarf Galaxies in the Virgo Cluster: H I and *IRAS* Data and Upper Limits on Proto–Dwarf Galaxies. *G. Lyle Hoffman, George Helou, E. E. Salpeter, & B. Murray Lewis.* 339, 812, 61-G4 (1989)
Neutral Hydrogen Detection Survey of Dwarf Galaxies. II. Faint Virgo Dwarfs and a Field Sample. *G. Lyle Hoffman, Hayes L. Williams, E. E. Salpeter, Allan Sandage, & Bruno Binggeli.* 71, 701, 46-B1 (1989)
HOFFMAN, R. D. The ν-Process. *S. E. Woosley, D. H. Hartmann, R. D. Hoffman, & W. C. Haxton.* 356, 272, 102-D8 (1990)
HOFFMAN, Y. On the Application of a Spherical Infall Model to the Local Supercluster. *H. Lee, Y. Hoffman, & C. Ftaclas.* 304, L11, 61-A13 (1986)
The Effects of Neutrino Transport on the Collapse of Iron Stellar Cores. *E. S. Myra, S. A. Bludman, Y. Hoffman, I. Lichenstadt, N. Sack, & K. A. Van Riper.* 318, 744, 89-B2 (1987)
HOFFMAN, YEHUDA. Hierarchical Clustering: Angular Momentum versus Density. *Yehuda Hoffman.* 301, 65, 14-F4 (1986)
The Decaying Particles Scenario and the Virgocentric Infall. *Yehuda Hoffman.* 305, L1, 74-A4 (1986)
The Dynamics of Superclusters: The Effect of Shear. *Yehuda Hoffman.* 308, 493, 114-C7 (1986)
Normalization, Cold Dark Matter, and Large-Scale Velocities. *Yehuda Hoffman.* 318, L7, 85-A9 (1987)
On the Formation and Structure of Galactic Halos. *Yehuda Hoffman.* 328, 489, 68-D2 (1988)
Angular Momentum, Hierarchical Clustering, and Local Density Maxima. *Yehuda Hoffman.* 329, 8, 75-B2 (1988)
Dynamics of Superclusters: Reconciling $\Omega_0 = 1.0$ with Observations? *Yehuda Hoffman.* 340, 69, 67-G3 (1989)
Local Gravity and Peculiar Velocity: Probes of Cosmological Models. *Ofer Lahav, Nick Kaiser, & Yehuda Hoffman.* 352, 448, 56-F3 (1990)
Isocurvature Baryon-dominated Open Universe: Structure of Galactic Halos. *Yehuda Hoffman.* 357, L5, 115-B6 (1990)
HOFFMANN, W. F. Structure in the Nucleus of NGC 1068 at 10 Microns. *R. Tresch-Fienberg, G. G. Fazio, D. Y. Gezari, W. F. Hoffmann, G. M. Lamb, P. K. Shu, & C. R. McCreight.* 312, 542, 8-G2 (1987)
HOFFMANN, WILLIAM F. High-Resolution 8–13 Micron Imaging of the Planetary Nebulae BD +30°3639 and NGC 6572. *Joseph L. Hora, Lynne K. Deutsch, William F. Hoffmann, & Giovanni G. Fazio.* 353, 549, 70-F13 (1990)
HOFMANN, A. Current Density Effects and the Importance of Charge Transfer Processes in the Radiolysis of Methane: Astrophysical Implications. *N. J. Sack, R. Schuster, A. Hofmann, A. Khedim, & R. Koppmann.* 360, 305, 148-G1 (1990)
HOFMANN, R. H_2 Spectroscopy as an Agent for Extinction Determinations: The Near-Infrared Curve for the Orion Molecular Cloud. *D. S. Davis, H. P. Larson, & R. Hofmann.* 304, 481, 59-B10 (1986)
HOFMANN, REINER. The Infrared Spectrum of M8 E: Evidence for Circumstellar CO. *Harold P. Larson, Reiner Hofmann, & Uwe Fink.* 307, 295, 98-C3 (1986)
HOGAN, C. J. Spectrum and Anisotropy of the Cosmic Infrared Background. *J. R. Bond, B. J. Carr, & C. J. Hogan.* 306, 428, 89-B9 (1986)
Pressure-confined Lyman-Alpha Clouds. *E. Baron, R. F. Carswell, C. J. Hogan, & R. J. Weymann.* 337, 609, 26-F1 (1989)
HOGAN, CRAIG J. On the Physical State of QSO Lyman-α Absorption Clouds. *Craig J. Hogan.* 316, L59, 62-B5 (1987)
Cosmological Quantum Chromodynamics, Neutron Diffusion, and the Production of Primordial Heavy Elements. *J. H. Applegate, Craig J. Hogan, & R. J. Scherrer.* 329, 572, 83-A1 (1988)
Quasar Microlensing and Dark Matter. *Hans-Walter Rix & Craig J. Hogan.* 332, 108, 124-C6 (1988)
Mock Gravity and Cosmic Structure. *Craig J. Hogan.* 340, 1, 67-A8 (1989)
New Limits on Microwave Background Anisotropy at Small Angular Scales. *Craig J. Hogan & R. B. Partridge.* 341, L29, 99-D10 (1989)
Superclustering of Quasi-stellar Object Absorption Clouds. *Julia Heisler, Craig J. Hogan, & Simon D. M. White.* 347, 52, 182-F7 (1989)
Spectroscopic Limits on High-Redshift Lyα Emission. *James D. Lowenthal, Craig J. Hogan, Robert W. Leach, Gary D. Schmidt, & Craig B. Foltz.* 357, 3, 111-B4 (1990)
HOGAN, P. A. Gravitational Radiation in Bianchi Type V Cosmological Models. *P. A. Hogan.* 324, 639, 10-C13 (1988)
Embedding Gravitational Radiation in Cosmological Models. *P. A. Hogan.* 333, 64, 138-F2 (1988)
McVittie's Mass Particle in an Expanding Universe and Related Solutions of Einstein's Equations. *P. A. Hogan.* 360, 315, 150-C1 (1990)
HOGG, D. E. 84 Gigahertz Observations of Five Crab-like Supernova Remnants. *C. J. Salter, S. P. Reynolds, D. E. Hogg, J. M. Payne, & P. J. Rhodes.* 338, 171, 35-B4 (1989)
HOGG, HELEN S. First Optical Candidate for a Recovered Classical Nova in a Globular Cluster: Nova 1938 in M14. *Michael M. Shara, Anthony F. J. Moffat, Michael Potter, Helen S. Hogg, & Amelia Wehlau.* 311, 796, 156-D9 (1986)
HOHENBERG, C. M. Evidence in Meteorites for an Active Early Sun. *M. W. Caffee, C. M. Hohenberg, T. D. Swindle, & J. N. Goswami.* 313, L31, 21-C3 (1987)
HOLBERG, J. B. The Detection of Photospheric X-Ray Pulsations from PG 1159–035 with *EXOSAT*. *M. A. Barstow, J. B. Holberg, Albert D. Grauer, & D. E. Winget.* 306, L25, 86-B11 (1986)
DA White Dwarf Effective Temperatures Determined from *IUE* Lyman-Alpha Profiles. *J. B. Holberg, F. Wesemael, & J. Basile.* 306, 629, 91-D7 (1986)
H1504+65: An Extraordinarily Hot Compact Star Devoid of Hydrogen and Helium. *J. A. Nousek, Harry L. Shipman, J. B. Holberg, James Liebert, Steven H. Pravdo, N. E. White, & Paolo Giommi.* 309, 230, 122-D9 (1986)
Far-Ultraviolet Background Observations at High Galactic Latitude. II. Diffusion Emisson. *J. B. Holberg.* 311, 969, 158-D11 (1986)
Further Observations of the Peculiar Hot Helium-rich Degenerate KPD 0005+5106. *Ronald A. Downes, Edward M. Sion, James Liebert, & J. B. Holberg.* 321, 943, 134-G4 (1987)
A Compact Planetary Nebula around the Hot White Dwarf EGB 6/PG 0950+139. *James Liebert, Richard Green, Howard E. Bond, J. B. Holberg, F. Wesemael, Thomas A. Fleming, & Kenneth Kidder.* 346, 251, 169-C3 (1989)
Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 351, 271, 41-D2 (1990)
Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object: Erratum. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 357, 291, 114-F6 (1990) (Orig. paper in 351, 271, 41-D2 (1990))
Spectroscopic Studies and Atmospheric Parameters of Pulsating DA White Dwarf (ZZ Ceti) Stars. *D. Daou, F. Wesemael, P. Bergeron, G. Fontaine, & J. B. Holberg.* 364, 242, 197-A11 (1990)
Detection of Trace Helium in G104-27, a 26,000 K DA White Dwarf. *J. B. Holberg, K. M. Kidder, & F. Wesemael.* 365, L77, 219-E7 (1990)

HOLCOMB, KATHERINE A. New Results in the Optics of Grains with Resonant Impurities. *Paul R. Shapiro & Katherine A. Holcomb.* 305, 433, 71-G11 (1986)
On the Dust Grain Hypothesis for the Diffuse Interstellar Bands. *Paul R. Shapiro & Katherine A. Holcomb.* 310, 872, 143-D9 (1986)
Linear Analysis of Postrecombination Magnetized Plasmas. *Katherine A. Holcomb.* 362, 381, 175-C1 (1990)
HOLENSTEIN, BRUCE D. *IUE* Observations of V Sagittae. *Robert H. Koch, Michael F. Corcoran, Bruce D. Holenstein, & George E. McCluskey, Jr.* 306, 618, 91-C10 (1986)
HOLLENBACH, D. J. Detection of Si II (34.8 Micron) Emission in Orion-KL: A Measurement of the Silicon Abundance in Dense Interstellar Gas. *M. R. Haas, D. J. Hollenbach, & E. F. Erickson.* 301, L57, 27-C7 (1986)
Shock Processing of Interstellar Dust: Diamonds in the Sky. *A. G. G. M. Tielens, C. G. Seab, D. J. Hollenbach, & Christopher F. McKee.* 319, L109, 107-G6 (1987)
Shocked [O I] 63 Micron Line Emission from the Supernova Remnant IC 443. *Michael G. Burton, D. J. Hollenbach, M. R. Haas, & E. F. Erickson.* 355, 197, 89-D1 (1990)
Far-Infrared Spectroscopy of the DR 21 Star Formation Region. *Adair P. Lane, M. R. Haas, D. J. Hollenbach, & E. F. Erickson.* 361, 132, 158-F1 (1990)
Line Emission from Clumpy Photodissociation Regions. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 365, 620, 216-A1 (1990)
HOLLENBACH, DAVID. Molecule Formation and Infrared Emission in Fast Interstellar Shocks. III. Results for *J* Shocks in Molecular Clouds. *David Hollenbach & Christopher F. McKee.* 342, 306, 104-F2 (1989)
The Correlation of C II 158 Micron and CO ($J = 1$–0) Line Emission. *Mark G. Wolfire, David Hollenbach, & A. G. G. M. Tielens.* 344, 770, 143-G8 (1989)
Physical Conditions in Photodissociation Regions: Application to Galactic Nuclei. *Mark G. Wolfire, A. G. G. M. Tielens, & David Hollenbach.* 358, 116, 123-D6 (1990)
HOLLENBACH, DAVID J. The Structure of Time-dependent Interstellar Shocks and Grain Destruction in the Interstellar Medium. *Christopher F. McKee, David J. Hollenbach, C. Gregory Seab, & A. G. G. M. Tielens.* 318, 674, 88-C7 (1987)
Radio Recombination Lines from Fast Shocks in Molecular Clouds, with Application to Bipolar Flows. *Christopher F. McKee & David J. Hollenbach.* 322, 275, 140-G7 (1987)
Theoretical Infrared Spectra of SN 1987A. *Sean W. J. Colgan & David J. Hollenbach.* 329, L25, 81-C3 (1988)
Observations of the 63 Micron [O I] Line in Herbig-Haro Objects. *Martin Cohen, David J. Hollenbach, Michael R. Haas, & Edwin F. Erickson.* 329, 863, 86-E1 (1988)
Observations of Fe II (26.0 Microns) in SN 1987A. *Edwin F. Erickson, Michael R. Haas, Sean W. J. Colgan, Steven D. Lord, Michael G. Burton, Jürgen Wolf, David J. Hollenbach, & Michael Werner.* 330, L39, 96-F7 (1988)
H_2O Masers in Star-forming Regions. *Moshe Elitzur, David J. Hollenbach, & Christopher F. McKee.* 346, 983, 179-D1 (1989)
Velocity-resolved Far-Infrared Spectra of [Fe II]: Evidence for Mixing and Clumping in SN 1987A. *Michael R. Haas, Sean W. J. Colgan, Edwin F. Erickson, Steven D. Lord, Michael G. Burton, & David J. Hollenbach.* 360, 257, 148-B12 (1990)
HOLLIS, J. M. Evidence for Extended Radio Emission Surrounding RX Puppis. *J. M. Hollis, R. J. Oliversen, M. Kafatos, & A. G. Michalitsianos.* 301, 877, 24-C4 (1986)
Sub–Arc Second 2 Centimeter Continuum and SiO Spectral Line Observations of R Aquarii. *J. M. Hollis, A. G. Michalitsianos, M. Kafatos, M. C. H. Wright, & W. J. Welch.* 309, L53, 125-G2 (1986)
Ultraviolet Variability and Mass Expulsion from R Aquarii. *M. Kafatos, A. G. Michalitsianos, & J. M. Hollis.* 62, 853, 43-C4 (1986)
A Palomar Observatory Sky Survey Atlas of Selected Molecular Clouds. *D. A. Klinglesmith & J. M. Hollis.* 64, 127, 18-F5 (1987)
The Large-Scale Radio Structure of R Aquarii. *J. M. Hollis, M. Kafatos, A. G. Michalitsianos, R. J. Oliversen, & F. Yusef-Zadeh.* 321, L55, 129-F6 (1987)
HCO Emission from H II–Molecular Cloud Interface Regions. *M. S. Schenewerk, L. E. Snyder, J. M. Hollis, P. R. Jewell, & L. M. Ziurys.* 328, 785, 71-F1 (1988)
RX Puppis: Detection of Asymmetrical Radio Structure. *J. M. Hollis, F. Yusef-Zadeh, T. J. Cornwell, R. J. Oliversen, A. G. Michalitsianos, & M. Kafatos.* 337, 514, 23-G9 (1989)
The Outer R Aquarii Nebula: Comparison of 6 Centimeter Radio Continuum and Balmer Line Emission. *J. M. Hollis, R. J. Oliversen, & R. Mark Wagner.* 337, 795, 28-G4 (1989)
Millimeter- and Submillimeter-Wave Surveys of Orion A Emission Lines in the Ranges 200.7–202.3, 203.7–205.3, and 330–360 GHz. *P. R. Jewell, J. M. Hollis, F. J. Lovas, & L. E. Snyder.* 70, 833, 31-D1 (1989)
A Search for Methylene in the Orion Nebula. *J. M. Hollis, P. R. Jewell, & F. J. Lovas.* 346, 794, 177-C1 (1989)
R Aquarii: Evidence for a Two-sided Radio Jet and a Circumbinary SiO Maser. *M. Kafatos, J. M. Hollis, F. Yusef-Zadeh, A. G. Michalitsianos, & M. Elitzur.* 346, 991, 179-D9 (1989)
Symmetrical Jet Action in the R Aquarii Binary System. *J. M. Hollis, R. Mark Wagner, & R. J. Oliversen.* 351, L17, 43-C6 (1990)
Comparisons of SiO Maser and Long-Period Variable Positions in the R Aquarii and Omicron Ceti Binary Systems. *J. M. Hollis, M. C. H. Wright, W. J. Welch, P. R. Jewell, H. E. Crull, Jr., M. Kafatos, & A. G. Michalitsianos.* 361, 663, 166-C12 (1990)
HOLLÓSI, J. Angular Cross-Correlation of Abell Clusters in Different Distance Classes. *A. S. Szalay, J. Hollósi, & G. Tóth.* 339, L5, 58-A11 (1989)
HOLLÓSI, JOSEPH. Three-Point Correlations of Galaxy Clusters. *Gábor Tóth, Joseph Hollósi, & Alexander S. Szalay.* 344, 75, 134-A6 (1989)
HOLLOWELL, DAVID. Nucleosynthesis of Solar System Material in a Low-Mass, Low-Metallicity Asymptotic Giant Branch Star. *David Hollowell & Icko Iben, Jr.* 333, L25, 144-C3 (1988)
Neutron Production and Neutron-Capture Nucleosynthesis in a Low-Mass, Low-Metallicity Asymptotic Giant Branch Star. *David Hollowell & Icko Iben, Jr.* 340, 966, 80-D1 (1989)
Algorithms for Neutron Density and *s*-Process Nucleosynthesis in a Low-Mass Asymptotic Giant Branch Star. *David Hollowell & Icko Iben, Jr.* 349, 208, 16-E1 (1990)
Helium Flashes and Hydrogen Mixing in Low-Mass Population III Stars. *Masayuki Y. Fujimoto, Icko Iben, Jr., & David Hollowell.* 349, 580, 22-E1 (1990)
Hydrogen Burning and Dredge-up during the Major Core Helium Flash in a $Z = 0$ Model Star. *David Hollowell, Icko Iben, Jr., & Masayuki Y. Fujimoto.* 351, 245, 41-B1 (1990)
HOLLWEG, JOSEPH V. Viscosity and the Chew-Goldberger-Low Equations in the Solar Corona. *Joseph V. Hollweg.* 306, 730, 92-E2 (1986)
Resonance Absorption of Magnetohydrodynamic Surface Waves: Physical Discussion. *Joseph V. Hollweg.* 312, 880, 12-E4 (1987)
Incompressible Magnetohydrodynamic Surface Waves: Nonlinear Aspects. *Joseph V. Hollweg.* 317, 918, 76-B11 (1987)
Resonance Absorption of Magnetohydrodynamic Surface Waves: Viscous Effects. *Joseph V. Hollweg.* 320, 875, 119-D2 (1987)
The Rebound Shock Model for Solar Spicules: Dynamics at Long Times. *Alphonse C. Sterling & Joseph V. Hollweg.* 327, 950, 59-B1 (1988)
Resonance Absorption of Solar *p*-Modes by Sunspots. *Joseph V. Hollweg.* 335, 1005, 183-G1 (1988)
A Rebound Shock Mechanism for Solar Fibrils. *Alphonse C. Sterling & Joseph V. Hollweg.* 343, 985, 131-C7 (1989)
Surface Waves in an Incompressible Fluid: Resonant Instability Due to Velocity Shear. *Joseph V. Hollweg, G. Yang, V. M. Cadez, & B. Gakovic.* 349, 335, 18-A7 (1990)
HOLM, A. V. Ultraviolet Spectroscopy of R Coronae Borealis. *A. V. Holm & L. R. Doherty.* 328, 726, 71-A10 (1988)
The Ultraviolet Calibration of the *Hubble Space Telescope*. IV. Absolute *IUE* Fluxes of *Hubble Space Telescope* Standard Stars. *R. C. Bohlin, A. W. Harris, A. V. Holm, & C. Gry.* 73, 413, 24-B1 (1990)
HOLM, ALBERT V. Ultraviolet Spectrophotometry and Optical and Infrared Photometry of the Old Nova GK Persei. *Chi-Chao Wu, Robert J. Panek, Albert V. Holm, John C. Raymond, Lee W. Hartmann, & Jean H. Swank.* 339, 443, 55-D10 (1989)

HOLMAN, G. D. The Plasma and Magnetic Field Properties of Coronal Loops Observed at High Spatial Resolution. *D. F. Webb, G. D. Holman, J. M. Davis, M. R. Kundu, & R. K. Shevgaonkar.* 315, 716, 48-D11 (1987)

HOLMAN, GORDON D. Theoretical Models of Free-free Microwave Emission from Solar Magnetic Loops. *Jeffrey W. Brosius & Gordon D. Holman.* 327, 417, 51-E5 (1988)

The Structure of the Microwave Emission from Sunspot Magnetic Fields. *Jeffrey W. Brosius & Gordon D. Holman.* 342, 1172, 116-E3 (1989)

Soft X-Ray, Microwave, and Hard X-Ray Emission from a Solar Flare: Implications for Electron Heating and Acceleration in Current Channels. *Gordon D. Holman, Mukul R. Kundu, & Sharad R. Kane.* 345, 1050, 163-E8 (1989)

HOLMES, M. R. A Model for the Formation of the Local Group. *P. J. E. Peebles, A. L. Melott, M. R. Holmes, & L. R. Jiang.* 345, 108, 150-D1 (1989)

HOLMGREN, D. E. The Determination of Element Abundances in the Solar Neighborhood from B-Type Stellar Spectra. I. Argon. *F. P. Keenan, B. Bates, P. L. Dufton, D. E. Holmgren, & S. Gilheany.* 348, 322, 5-A7 (1990)

The Determination of Element Abundances in the Solar Neighborhood from B-Type Stellar Spectra. II. Non–LTE Calculations for Ar II. *D. E. Holmgren, P. J. F. Brown, P. L. Dufton, & F. P. Keenan.* 364, 657, 204-C11 (1990)

HOLT, S. S. X-Ray Absorption in Active Galaxies: Constraints on the Broad-Line Emitting Regions. *G. A. Reichert, R. F. Mushotzky, & S. S. Holt.* 303, 87, 42-A4 (1986)

X-Ray Spectroscopy of Five BL Lacertae Objects. *C. M. Urry, R. F. Mushotzky, & S. S. Holt.* 305, 369, 71-C1 (1986)

Search for Orbital X-Ray Variation in Scorpius X-1. *W. C. Priedhorsky & S. S. Holt.* 312, 743, 11-A13 (1987)

HOLTZMAN, JON A. Microwave Background Anisotropies and Large-Scale Structure in Universes with Cold Dark Matter, Baryons, Radiation, and Massive and Massless Neutrinos. *Jon A. Holtzman.* 71, 1, 33-B1 (1989)

HOLYNSKI, R. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

HOLZER, THOMAS E. Line Broadening of Mg X $\lambda\lambda$609 and 625 Coronal Emission Lines Observed above the Solar Limb. *Donald M. Hassler, Gary J. Rottman, Edward C. Shoub, & Thomas E. Holzer.* 348, L77, 13-D6 (1990)

Lower Solar Chromosphere-Corona Transition Region. I. Theoretical Models with Small Temperature Gradients. *D. Tod Woods, Thomas E. Holzer, & Keith B. MacGregor.* 355, 295, 90-E4 (1990)

Lower Solar Chromosphere-Corona Transition Region. III. Implications of the Observed Quiet-Sun Emission Measure Including Wave Pressure Effects. *D. Tod Woods, Thomas E. Holzer, & Keith B. MacGregor.* 355, 309, 90-F6 (1990)

Lower Solar Chromosphere-Corona Transition Region. II. Wave Pressure Effects for a Specific Form of the Heating Function. *D. Tod Woods, Thomas E. Holzer, & Keith B. MacGregor.* 73, 489, 25-B5 (1990)

Standing Shocks in the Inner Solar Wind. *Egil Leer & Thomas E. Holzer.* 358, 680, 132-A8 (1990)

HONDA, M. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

A Simulation of High-Energy Cosmic-Ray Propagation. *M. Honda.* 319, 836, 104-B7 (1987)

A Study of the Intergalactic Magnetic Field using Extragalactic Ultra–High-Energy Gamma-Ray Sources. *M. Honda.* 339, 629, 59-F4 (1989)

Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

HONEYCUTT, R. K. Evidence for a Bipolar Wind in the Cataclysmic Variable PG 1012–029. *R. K. Honeycutt, E. M. Schlegel, & R. H. Kaitchuck.* 302, 388, 32-D14 (1986)

A Spectrophotometric Study and Mass Determination for the Cataclysmic Variable Lanning 10. *E. M. Schlegel, R. K. Honeycutt, & R. H. Kaitchuck.* 307, 760, 105-C7 (1986)

HONEYCUTT, R. KENT. Time-resolved Spectrophotometry of the Cataclysmic Variable EX Hydrae. *Ronald H. Kaitchuck, Panayiotis A. Hantzios, Panagiotis Kakaletris, R. Kent Honeycutt, & Eric M. Schlegel.* 317, 765, 74-D3 (1987)

Atlas of Time-resolved Spectrophotometry of Cataclysmic Variables. *R. Kent Honeycutt, Ronald H. Kaitchuck, & Eric M. Schlegel.* 65, 451, 34-D4 (1987)

On the Violet Flux of N-Type Carbon Stars. *Danny R. Faulkner, R. Kent Honeycutt, & Hollis R. Johnson.* 324, 490, 6-E6 (1988)

Spectroscopic and Photometric Observations of Transient Accretion Disks in U Cephei. *Ronald H. Kaitchuck, R. Kent Honeycutt, & Danny R. Faulkner.* 339, 420, 55-C1 (1989)

Doppler Imaging of the Dwarf Nova U Geminorum. *T. R. Marsh, Keith Horne, Eric M. Schlegel, R. Kent Honeycutt, & Ronald H. Kaitchuck.* 364, 637, 204-B1 (1990)

HONG, S. S. Inversion of the Zodiacal Infrared Brightness Integral. *S. S. Hong & I. K. Um.* 320, 928, 120-A5 (1987)

HOOD, A. W. A Twisted Flux-Tube Model for Solar Prominences. I. General Properties. *E. R. Priest, A. W Hood, & U. Anzer.* 344, 1010, 146-E1 (1989)

HOOD, A. W. The Magnetohydrodynamic Stability of Coronal Arcades. III. Sheared Equilibrium Fields. *P. J. Cargill, A. W. Hood, & S. Migliuolo.* 309, 402, 124-C7 (1986)

Boundary Effects on the Magnetohydrodynamic Stability of a Resistive Plasma. *M. Velli, G. Einaudi, & A. W. Hood.* 350, 419, 30-B8 (1990)

Ideal Kink Instabilities in Line-tied Coronal Loops: Growth Rates and Geometrical Properties. *M. Velli, G. Einaudi, & A. W. Hood.* 350, 428, 30-C3 (1990)

HOOIMEYER, J. R. Superluminal Motion in the Giant Quasar 4C 34.47. *P. D. Barthel, J. R. Hooimeyer, R. T. Schilizzi, G. K. Miley, & E. Preuss.* 336, 601, 10-A9 (1989)

HOOTEN, JAMES T. Photometry of 50 Suspected Variable Stars. *James T. Hooten & Douglas S. Hall.* 74, 225, 33-B3 (1990)

HORA, JOSEPH L. High-Resolution 8–13 Micron Imaging of the Planetary Nebulae BD +30°3639 and NGC 6572. *Joseph L. Hora, Lynne K. Deutsch, William F. Hoffmann, & Giovanni G. Fazio.* 353, 549, 70-F13 (1990)

HORAŃYI, M. The Effects of Electrostatic Charging on the Dust Distribution at Halley's Comet. *M. Horańyi & D. A. Mendis.* 307, 800, 105-F8 (1986)

Time-dependent Numerical Modeling of Dust Halo Formation at Comets. *T. I. Gombosi & M. Horańyi.* 311, 491, 151-D3 (1986)

Coagulation of Dust Particles in a Plasma. *M. Horańyi & C. K. Goertz.* 361, 155, 159-A1 (1990)

HOREDT, G. P. Analytical and Numerical Values of Emden-Chandrasekhar Associated Functions. *G. P. Horedt.* 357, 560, 119-E9 (1990)

HORIUCHI, T. Nonlinear Parker Instability of Isolated Magnetic Flux in a Plasma. *K. Shibata, T. Tajima, R. Matsumoto, T. Horiuchi, T. Hanawa, R. Rosner, & Y. Uchida.* 338, 471, 38-F6 (1989)

HORIUCHI, TOSHIRO. Nonlinear Parker Instability in Nonuniform Gravitational Fields: Nonlinear Oscillations and Shock Waves. *Ryoji Matsumoto, Toshiro Horiuchi, Tomoyuki Hanawa, & Kazunari Shibata.* 356, 259, 102-C8 (1990)

HORN, JIRI. An Eight Year Spectroscopic Orbit for the WC7+O4 Wolf-Rayet Binary HD 193793: Toward Solving the Mystery of the Infrared Outbursts. *Anthony F. Moffat, Robert Lamontagne,*

Peredur M. Williams, Jiri Horn, & Wilhelm Seggewiss. 312, 807, 11-F8 (1987)

HORNE, JAMES H. A Prescription for Period Analysis of Unevenly Sampled Time Series. *James H. Horne & Sallie L. Baliunas.* 302, 757, 39-A4 (1986)

HORNE, K. X-Ray Eclipse Mapping of AR Lacertae. *N. E. White, R. A. Shafer, K. Horne, A. N. Parmar, & J. L. Culhane.* 350, 776, 35-F1 (1990)

HORNE, KEITH. The Radial Velocity Curve and Peculiar TiO Distribution of the Red Secondary Star in Z Chamaeleontis. *Richard A. Wade & Keith Horne.* 324, 411, 5-F7 (1988)

The Structure of the Inner R Aquarii Nebula in the Light of Hα and [N II] λ6584 Emission. *Francesco Paresce, Christopher Burrows, & Keith Horne.* 329, 318, 78-E8 (1988)

Eclipse Studies of the Dwarf Nova OY Carinae in Quiescence. *Janet H. Wood, Keith Horne, Graham Berriman, & Richard A. Wade.* 341, 974, 97-C1 (1989)

Evidence for a High-Mass White Dwarf in Nova V1500 Cygni 1975. *Keith Horne & Donald P. Schneider.* 343, 888, 130-C1 (1989)

Emission-Line Mapping of the Dwarf Nova IP Pegasi in Outburst and Quiescence. *T. R. Marsh & Keith Horne.* 349, 593, 22-F1 (1990)

Doppler Imaging of the Dwarf Nova U Geminorum. *T. R. Marsh, Keith Horne, Eric M. Schlegel, R. Kent Honeycutt, & Ronald H. Kaitchuck.* 364, 637, 204-B1 (1990)

HORVATH, MARK A. A Search for Scale-dependent Morphology in Five Molecular Cloud Complexes. *Robert L. Dickman, Mark A. Horvath, & Michael Margulis.* 365, 586, 215-E1 (1990)

HOSHI, R. Simultaneous X-Ray and Optical Observations of GX 339–4 in an X-Ray High State. *K. Makishima, Y. Maejima, K. Mitsuda, H. V. Bradt, R. A. Remillard, I. R. Tuohy, R. Hoshi, & M. Nakagawa.* 308, 635, 116-A1 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

X-Ray Irradiated Accretion Disks and Bimodal States. *H. Inoue & R. Hoshi.* 322, 320, 141-C11 (1987)

HOSSAIN, MURSHED. New Numerical Solutions of Three-dimensional Compressible Hydrodynamic Convection. *Murshed Hossain & D. J. Mullan.* 354, L33, 80-D7 (1990)

HOTE, C. Observation of the Vela Pulsar, PSR 0833–45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

HOTTA, N. Upper Limit for Ultra-High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

HOTZ, HENRY B. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2. John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

HOUCK, J. R. Detection of Silicon in the Galactic Center. *T. Herter, J. R. Houck, P. Graf, & G. E. Gull.* 309, L13, 125-D6 (1986)

A Very Deep *IRAS* Survey at $l = 97°$, $b = 30°$. *Perry Hacking & J. R. Houck.* 63, 311, 5-A3 (1987)

The Most Luminous Far-Infrared Extragalactic Sources. *M. Harwit, J. R. Houck, B. T. Soifer, & G. G. C. Palumbo.* 315, 28, 40-C6 (1987)

Far-Infrared Spectroscopy of Star Formation Regions in M82. *P. B. Duffy, E. F. Erickson, M. R. Haas, & J. R. Houck.* 315, 68, 40-F6 (1987)

A Very Deep *IRAS* Survey: Constraints on the Evolution of Starburst Galaxies. *Perry Hacking, J. J. Condon, & J. R. Houck.* 316, L15, 56-B4 (1987)

IRAS Galaxies at Low Galactic and High Supergalactic Latitudes. *M. W. Dow, N. Y. Lu, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 324, L51, 18-B9 (1988)

Distribution of Si II in the Galactic Center. *P. Graf, T. Herter, G. E. Gull, & J. R. Houck.* 330, 803, 101-D1 (1988)

A Very Deep *IRAS* Survey. III. VLA Observations. *Perry Hacking, J. J. Condon, J. R. Houck, & C. A. Beichman.* 339, 12, 50-B6 (1989)

Electron Temperatures in the High-Excitation Zones of Planetary Nebulae. *N. Rowlands, J. R. Houck, T. Herter, G. E. Gull, & M. F. Skrutskie.* 341, 901, 96-D1 (1989)

Si II Mapping of the Neutral Gas Ring in the Galactic Center: Evidence for Dust Destruction. *T. Herter, G. E. Gull, S. T. Megeath, N. Rowlands, & J. R. Houck.* 343, 696, 127-G1 (1989)

Infrared and Radio Measurements of the Density Structure of Compact H II Regions. *S. T. Megeath, T. Herter, G. E. Gull, & J. R. Houck.* 356, 534, 106-G13 (1990)

Identifying Galaxies in the Zone of Avoidance. *N. Y. Lu, M. W. Dow, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 357, 388, 117-D7 (1990)

HOUCK, JOHN C. Low-Temperature Galactic Fountains. *John C. Houck & Joel N. Bregman.* 352, 506, 57-D1 (1990)

HOUGH, D. H. Superluminal Motion in the Double-lobed Quasar 3C 245. *D. H. Hough & A. C. S. Readhead.* 321, L11, 129-C1 (1987)

HOUGH, J. H. EXO 033319–2554.2: An Eclipsing AM Herculis System Showing Cyclotron Emission Features. *Lilia Ferrario, D. T. Wickramasinghe, Jeremy Bailey, I. R. Tuohy, & J. H. Hough.* 337, 832, 29-C7 (1989)

HOUGH, JIM H. CO Outflow and Infrared Reflection Nebula of GSS 30 in the Rho Ophiuchi Core. *Motohide Tamura, Shuji Sato, Hiroko Suzuki, Norio Kaifu, & Jim H. Hough.* 350, 728, 35-B1 (1990)

HOULAHAN, PADRAIG. Recognition and Characterization of Hierarchical Interstellar Structure. I. Correlation Function. *Padraig Houlahan & John Scalo.* 72, 133, 3-F9 (1990)

HOURIGAN, KERRY. Orbital Migration of Protoplanets: The Inertial Limit. *William R. Ward & Kerry Hourigan.* 347, 490, 188-B1 (1989)

HOUSE, LEWIS L. The Ejection of Helical Field Structures through the Outer Corona. *Lewis L. House & Mitchell A. Berger.* 323, 406, 157-E4 (1987)

HOVESTADT, D. The Heavy-Ion Compositional Signature in ^{3}He-rich Solar Particle Events. *G. M. Mason, D. V. Reames, B. Klecker, D. Hovestadt, & T. T. von Rosenvinge.* 303, 849, 51-G1 (1986)

Calculation of the Mean Equilibrium Charges of Energetic Ions after Passing through a Hot Plasma. *A. Luhn & D. Hovestadt.* 317, 852, 75-D1 (1987)

The Mean Ionic Charge of Silicon in ^{3}He-rich Solar Flares. *A. Luhn, B. Klecker, D. Hovestadt, & E. Möbius.* 317, 951, 76-E2 (1987)

A Multispacecraft Study of the Injection and Transport of Solar Energetic Particles. *J. Beeck, G. M. Mason, D. C. Hamilton, G. Wibberenz, H. Kunow, D. Hovestadt, & B. Klecker.* 322, 1052, 151-D14 (1987)

Seed Population for ~1 MeV per Nucleon Heavy Ions Accelerated by Interplanetary Shocks. *L. C. Tan, G. M. Mason, B. Klecker, & D. Hovestadt.* 345, 572, 156-B7 (1989)

HOWARD, JAMIE. A Search for Near-Infrared Counterparts of IRAS Embedded Sources in the M17 SW Giant Molecular Cloud. *Debra Meloy Elmegreen, James Phillips, Kelly Beck, Holly Thomas, & Jamie Howard.* 335, 803, 181-D9 (1988)

HOWARD, R. J. CO Emission from Centaurus A. *T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, R. J. Howard, C. R. Masson, D. B. Sanders, B. Veidt, & K. Young.* 322, L73, 152-B8 (1987)

HOWARD, ROBERT. Rotation and Expansion within Sunspot Groups. *Peter A. Gilman & Robert Howard.* 303, 480, 46-C12 (1986)

Meridional Motions of Sunspots and Sunspot Groups. *Robert Howard & Peter A. Gilman.* 307, 389, 99-C13 (1986)
Distribution of Sunspot Umbral Areas: 1917–1982. *T. J. Bogdan, Peter A. Gilman, I. Lerche, & Robert Howard.* 327, 451, 52-A5 (1988)
HOWARD, W. M. Stellar Technetium and Niobium Abundances as a Measure of the Lifetime of AGB Stars in the Third Dredge-up Phase. *G. J. Mathews, K. Takahashi, R. A. Ward, & W. M. Howard.* 302, 410, 32-F10 (1986)
Parametric Study of Pulsed Neutron Source Models for the *s*-Process. *W. M. Howard, G. J. Mathews, K. Takahashi, & R. A. Ward.* 309, 633, 128-B12 (1986)
Inverse Comptonization by One-dimensional Relativistic Electrons. *E. Canfield, W. M. Howard, & E. P. Liang.* 323, 565, 161-A1 (1987)
^{146}Sm by the Gamma-Process. *S. E. Woosley & W. M. Howard.* 354, L21, 80-C6 (1990)
HOWARD, W. MICHAEL. Model Atmospheres for X-Ray Bursting Neutron Stars. *Richard A. London, Ronald E. Taam, & W. Michael Howard.* 306, 170, 83-B8 (1986)
HOWARTH, I. D. The Chemical Composition of a Main-Sequence Star in the Small Magellanic Cloud. *P. L. Dufton, A. Fitzsimmons, & I. D. Howarth.* 362, L59, 181-C11 (1990)
HOWARTH, IAN D. Narrow Absorption Components and Variability in Ultraviolet P Cygni Profiles of Early-Type Stars. *Raman K. Prinja & Ian D. Howarth.* 61, 357, 22-B10 (1986)
Ultraviolet Observations of Extensive Variability in the Stellar Wind of ζ Persei. *Raman K. Prinja, Ian D. Howarth, & Huib F. Henrichs.* 317, 389, 68-B11 (1987)
The Stellar Winds of 203 Galactic O Stars: A Quantitative Ultraviolet Survey. *Ian D. Howarth & Raman K. Prinja.* 69, 527, 9-C1 (1989)
The Ultraviolet Variability of HD 45166 (qWR+B8 V): Evidence for Stellar Wind Radiative Instabilities. *Allan J. Willis, Ian D. Howarth, D. J. Strickland, & S. R. Heap.* 347, 413, 187-C1 (1989)
Orbital Variability in the Wind of the Massive X-Ray Binary HD 153919/4U 1700–37. *G. Hammerschlag-Hensberge, Ian D. Howarth, & Timothy R. Kallman.* 352, 698, 59-F1 (1990)
Terminal Velocities for a Large Sample of O Stars, B Supergiants, and Wolf-Rayet Stars. *Raman K. Prinja, M. J. Barlow, & Ian D. Howarth.* 361, 607, 165-E9 (1990)
HOWE, J. E. A Millimeter-Wave Spectral Line and Continuum Survey of Cold IRAS Sources. *B. A. Wilking, L. G. Mundy, J. H. Blackwell, & J. E. Howe.* 345, 257, 152-C9 (1989)
Warm Dense Gas in the Reflection Nebula NGC 2023. *D. T. Jaffe, R. Genzel, A. I. Harris, J. E. Howe, G. J. Stacey, & J. Stutzki.* 353, 193, 64-E1 (1990)
HOWELL, R. R. Milliarcsecond Resolution Infrared Observations of Young Stars in Taurus and Ophiuchus. *M. Simon, R. R. Howell, A. J. Longmore, B. A. Wilking, D. M. Peterson, & W.-P. Chen.* 320, 344, 111-G3 (1987)
Discovery of Five Pre–Main-Sequence Binaries in Taurus. *W.-P. Chen, M. Simon, A. J. Longmore, R. R. Howell, & J. A. Benson.* 357, 224, 113-G5 (1990)
HOWELL, STEVE B. High Galactic Latitude Cataclysmic Variables. *Steve B. Howell & Paula Szkody.* 356, 623, 108-A4 (1990)
HOYNG, P. Turbulent Transport of Magnetic Fields. III. Stochastic Excitation of Global Magnetic Modes. *P. Hoyng.* 332, 857, 133-G7 (1988)
On the Sensitivity of Resonant Scattering Spectrometers for Whole-Disk Solar Velocity Oscillation Measurements. *P. Hoyng.* 345, 1088, 164-A11 (1989)
HOYT, C. Electric Fields and Plasma Structure in Coronal Magnetic Loops. *P. Foukal, C. Hoyt, & L. Gilliam.* 303, 861, 52-A2 (1986)
HRIVNAK, B. J. RW Comae Berenices. III. Light Curve Solution and Absolute Parameters. *E. F. Milone, R. E. Wilson, & B. J. Hrivnak.* 319, 325, 96-E3 (1987)
HRIVNAK, BRUCE J. Ground-based and *IRAS* Observations of Compact Planetary Nebulae. *Sun Kwok, Bruce J. Hrivnak, & E. F. Milone.* 303, 451, 46-A11 (1986)
Ground-based Observations of *IRAS* Candidates for Late Asymptotic Giant Branch Stars. *Sun Kwok, Bruce J. Hrivnak, & R. T. Boreiko.* 312, 303, 4-B14 (1987)
Ground-based Infrared Observations of Variable IRAS Sources as Candidates for Late Asymptotic Giant Branch Stars. *Sun Kwok, Bruce J. Hrivnak, & R. T. Boreiko.* 321, 975, 135-B10 (1987)
The High-Latitude F Supergiant IRAS 18095+2704: A Proto–Planetary Nebula. *Bruce J. Hrivnak, Sun Kwok, & Kevin M. Volk.* 331, 832, 118-A11 (1988)
Radial Velocity Studies and Absolute Parameters of Contact Binaries. I. AB Andromedae. *Bruce J. Hrivnak.* 335, 319, 174-B3 (1988)
Radial Velocity Studies and Absolute Parameters of Contact Binaries. II. OO Aquilae. *Bruce J. Hrivnak.* 340, 458, 73-A1 (1989)
A 21 Micron Emission Feature in Four Proto–Planetary Nebulae. *Sun Kwok, Kevin M. Volk, & Bruce J. Hrivnak.* 345, L51, 157-E5 (1989)
A Study of Several F and G Supergiant-like Stars with Infrared Excesses as Candidates for Proto–Planetary Nebulae. *Bruce J. Hrivnak, Sun Kwok, & Kevin M. Volk.* 346, 265, 169-D5 (1989)
Unusual Infrared Line Profiles in the Post–Asymptotic Giant Branch Star HD 56126. *S. Kwok, Bruce J. Hrivnak, & T. R. Geballe.* 360, L23, 149-D6 (1990)
HU, E. M. Gas in and toward the Magellanic Clouds. *A. Songaila, J. C. Blades, E. M. Hu, & L. L. Cowie.* 303, 198, 43-C6 (1986)
Radio Observations of a Candidate Cosmic String Gravitational Lens. *J. N. Hewitt, R. A. Perley, E. L. Turner, & E. M. Hu.* 356, 57, 99-F10 (1990)
HU, ESTHER M. Kinematic Evidence of Satellite Galaxy Populations in the Potential Wells of First-ranked Cluster Galaxies. *Lennox L. Cowie & Esther M. Hu.* 305, L39, 80-B7 (1986)
The Distribution of Gas and Galaxies around the Distant Quasar PKS 1614+051. *Esther M. Hu & Lennox L. Cowie.* 317, L7, 71-A9 (1987)
The Formation of Families of Twin Galaxies by String Loops. *Lennox L. Cowie & Esther M. Hu.* 318, L33, 92-A9 (1987)
Investigation of a Candidate String-lensing Field. *Esther M. Hu.* 360, L7, 149-B10 (1990)
HU, Y. Q. Induced Mass and Wave Motions in the Lower Solar Atmosphere. II. Effects of Converging and Diverging Photospheric Motions. *S. T. Wu, Y. Q. Hu, Y. Nakagawa, & E. Tandberg-Hanssen.* 306, 751, 92-F9 (1986)
On Two-dimensional Magnetostatic Equilibria and Their Stability. *Y. Q. Hu.* 331, 402, 110-F6 (1988)
Steady Hydromagnetic Flows in Open Magnetic Fields. III. Allowing for Variations of Density with Latitude and Nonalignment of Velocity with Magnetic Field. *Y. Q. Hu & B. C. Low.* 342, 1049, 115-B9 (1989)
HUA, X.-M. A Determination of the ^{3}He/H Ratio in the Solar Photosphere from Flare Gamma-Ray Line Observations. *X.-M. Hua & R. E. Lingenfelter.* 319, 555, 99-C14 (1987)
Solar Flare Neutron and Accelerated Ion Angular Distributions. *X.-M. Hua & R. E. Lingenfelter.* 323, 779, 163-C8 (1987)
De-Excitation Gamma-Ray Line Emission from Solar Flare Magnetic Loops. *X.-M. Hua, R. Ramaty, & R. E. Lingenfelter.* 341, 516, 90-C2 (1989)
^{7}Li and ^{7}Be De-Excitation Lines: Probes for Accelerated Particle Transport Models in Solar Flares. *R. J. Murphy, X.-M. Hua, B. Kozlovsky, & R. Ramaty.* 351, 299, 41-G1 (1990)
Ion and Relativistic Electron Transport in Solar Flares. *R. Ramaty, J. A. Miller, X.-M. Hua, & R. E. Lingenfelter.* 73, 199, 20-D9 (1990)
HUANG, KE-LIANG. Optical Variability of the Medium-bright Quasar Sample. *Ke-Liang Huang, Kenneth J. Mitchell, & Peter D. Usher.* 362, 33, 169-D11 (1990)
HUANG, L. K. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2–2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)
Laboratory Study of the Spectrum of Highly Ionized Calcium in the 100–250 Å Range Applied to Solar Flare Diagnostics. *S. Lippmann, M. Finkenthal, L. K. Huang, H. W. Moos, B. C.*

Stratton, T. L. Yu, A. K. Bhatia, & W. L. Hodge. 316, 819, 61-A11 (1987)

HUANG, MIN. Thermal Instability Accretion Disk Model for the X-Ray Transient A0620–00. *Min Huang & J. Craig Wheeler.* 343, 229, 121-A14 (1989)

HUANG, T. S. Centrifugal Field Line Breaking: An Upper Limit to Io Mass Injection. *T. S. Huang & G. L. Siscoe.* 312, 475, 6-B1 (1987)

Corotation Lag Limit on Mass-Loss Rate from Io. *T. S. Huang & G. L. Siscoe.* 319, 1003, 106-A1 (1987)

HUANG, Y. R. The Sun as a Star: On Wavelength Stability. *L. Wallace, Y. R. Huang, & W. Livingston.* 327, 399, 51-D1 (1988)

HUANG, Y.-L. *IRAS* Sources Associated with Shocked Gas Regions in IC 443. *Y.-L. Huang, R. L. Dickman, & Ronald L. Snell.* 302, L63, 40-E12 (1986)

Molecular Clouds and Supernova Remnants in the Outer Galaxy. *Y.-L. Huang & P. Thaddeus.* 309, 804, 130-B4 (1986)

The Molecular Content of Interacting and Isolated Galaxies: The Effect of Environment on the Efficiency of Star Formation. *Judith S. Young, Jeffrey D. Kenney, Linda Tacconi, M. J. Claussen, Y.-L. Huang, Lowell Tacconi-Garman, Shuding Xie, & F. Peter Schloerb.* 311, L17, 152-B11 (1986)

Molecular Outflows Associated with Bright Far-Infrared Sources. *Ronald L. Snell, Y.-L. Huang, Robert L. Dickman, & M. J. Claussen.* 325, 853, 29-G11 (1988)

CO Pedestal Features from IRAS Sources in Dark Clouds. *P. R. Schwartz, Graham Gee, & Y.-L. Huang.* 327, 350, 50-G4 (1988)

Molecular Outflows Associated with a Flux-limited Sample of Bright Far-Infrared Sources. *Ronald L. Snell, Robert L. Dickman, & Y.-L. Huang.* 352, 139, 51-F9 (1990)

HUBBARD, E. N. Diameter and Limb-darkening Measures for Alpha Orionis. *A. Y. S. Cheng, E. K. Hege, E. N. Hubbard, L. Goldberg, P. A. Strittmatter, & W. J. Cocke.* 309, 737, 129-C11 (1986)

The Velocity Distribution of Quasar/AGN Broad Emission Line Clouds. *R. C. Puetter & E. N. Hubbard.* 320, 85, 109-A6 (1987)

HUBBARD, ROBERT P. Oscillator Strengths of the CN Red System. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engleman, Jr., John G. Phillips, & Robert P. Hubbard.* 303, 892, 52-D8 (1986)

Oscillator Strengths of the CN Red System: Erratum. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engelman, Jr., John G. Phillips, & Robert P. Hubbard.* 307, 414, 99-E10 (1986) (Orig. paper in 303, 892, 52-D8 (1986))

HUBBARD, W. B. Structure of Scintillations in Neptune's Occultation Shadow. *W. B. Hubbard, Emmanuel Lellouch, Bruno Sicardy, André Brahic, Faith Vilas, Patrice Bouchet, Robert A. McLaren, & C. Perrier.* 325, 490, 24-E6 (1988)

Theory of Anisotropic Refractive Scintillation: Application to Stellar Occultations by Neptune. *Ramesh Narayan & W. B. Hubbard.* 325, 503, 24-F5 (1988)

The Effect of Gas and Grain Opacity on the Cooling of Brown Dwarfs. *Jonathan I. Lunine, W. B. Hubbard, Adam Burrows, Y-P. Wang, & K. Garlow.* 338, 314, 36-F11 (1989)

Theoretical Models of Very Low Mass Stars and Brown Dwarfs. *Adam Burrows, W. B. Hubbard, & Jonathan I. Lunine.* 345, 939, 162-C1 (1989)

The Initial Mass Function for Very Low Mass Stars in the Hyades. *W. B. Hubbard, Adam Burrows, & Jonathan I. Lunine.* 358, L53, 133-D1 (1990)

HUBBARD, WILLIAM B. Evolution and Infrared Spectra of Brown Dwarfs. *Jonathan I. Lunine, William B. Hubbard, & Mark S. Marley.* 310, 238, 134-F2 (1986)

Evolution and Infrared Spectra of Brown Dwarfs: Erratum. *Jonathan I. Lunine, William B. Hubbard, & Mark S. Marley.* 316, 473, 55-B13 (1987) (Orig. paper in 310, 238, 134-F2 (1986))

The Periodicities in the Infrared Excess of G29–38: An Oscillating Brown Dwarf? *Mark S. Marley, Jonathan I. Lunine, & William B. Hubbard.* 348, L37, 6-D8 (1990)

HUBENY, I. Redistribution of Radiation in the Presence of Velocity-changing Collisions. *I. Hubeny & J. Cooper.* 305, 852, 78-C3 (1986)

Scattering of Polarized Light in Spectral Lines with Partial Frequency Redistribution: General Redistribution Matrix. *H. Domke & I. Hubeny.* 334, 527, 160-F6 (1988)

Approximate Formulation of Redistribution in the Lyα, Lyβ, Hα System. *J. Cooper, R. J. Ballagh, & I. Hubeny.* 344, 949, 145-G7 (1989)

Vertical Structure of Accretion Disks: A Simplified Analytical Model. *I. Hubeny.* 351, 632, 48-A5 (1990)

HUBENY, IVAN. Stringent Limits on the Ionized Mass Loss from A and F Dwarfs. *Alexander Brown, Anthony Vealé, Philip Judge, Jay A. Bookbinder, & Ivan Hubeny.* 361, 220, 159-F3 (1990)

HUBER, M. C. E. Absolute Oscillator Strengths for 108 Lines of Si I between 163 and 410 Nanometers. *Peter L. Smith, M. C. E. Huber, G. P. Tozzi, H. E. Griesinger, B. L. Cardon, & G. G. Lombardi.* 322, 573, 144-B12 (1987)

HUBICKYJ, OLENKA. RR Lyrae Stars: A Theoretical Study of Bailey Type *c* Variables. *Olenka Hubickyj & Richard B. Stothers.* 309, 122, 121-C13 (1986)

HUCHRA, J. A Distance Scale from the Infrared Magnitude/ H I Velocity-Width Relation. V. Distance Moduli to 10 Galaxy Clusters, and Positive Detection of Bulk Supercluster Motion toward the Microwave Anisotropy. *M. Aaronson, G. Bothun, J. Mould, J. Huchra, R. A. Schommer, & M. E. Cornell.* 302, 536, 36-D4 (1986)

HUCHRA, J. P. An X-Ray and Optical Study of the Cluster of Galaxies Abell 754. *D. Fabricant, T. C. Beers, M. J. Geller, P. Gorenstein, J. P. Huchra, & M. J. Kurtz.* 308, 530, 114-F4 (1986)

A Study of a Flux-limited Sample of IRAS Galaxies. *Beverly J. Smith, S. G. Kleinmann, J. P. Huchra, & F. J. Low.* 318, 161, 80-F5 (1987)

Infrared Color-selected Quasars and Seyfert 1 Galaxies. *F. J. Low, J. P. Huchra, S. G. Kleinmann, & R. M. Cutri.* 327, L41, 61-B2 (1988)

Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 333, 654, 42-B1 (1989)

The Properties of Infrared Color-selected Quasars. *F. J. Low, R. M. Cutri, S. G. Kleinmann, & J. P. Huchra.* 340, L1, 75-C6 (1989)

A Deep Abell Cluster Redshift Survey. *J. P. Huchra, J. P. Henry, M. Postman, & M. J. Geller.* 365, 66, 206-G1 (1990)

HUCHRA, JOHN P. A Slice of the Universe. *Valérie de Lapparent, Margaret J. Geller, & John P. Huchra.* 302, L1, 35-A4 (1986)

A Redshift Survey of Low Surface Brightness Galaxies. II. Do They Fill the Voids? *Gregory D. Bothun, Timothy C. Beers, Jeremy R. Mould, & John P. Huchra.* 308, 510, 114-D12 (1986)

Lyman-α Emission in Star-forming Galaxies. *Lee W. Hartmann, John P. Huchra, Margaret J. Geller, Paul O'Brien, & Robert Wilson.* 326, 101, 33-B11 (1988)

Discordant Redshifts in Compact Groups of Galaxies. *Paul Hickson, Enrico Kindl, & John P. Huchra.* 329, L65, 89-B8 (1988)

Morphology of Galaxies in Compact Groups. *Paul Hickson, Enrico Kindl, & John P. Huchra.* 331, 64, 106-F6 (1988)

The Mean Density and Two-Point Correlation Function for the CfA Redshift Survey Slices. *Valérie de Lapparent, Margaret J. Geller, & John P. Huchra.* 332, 44, 123-E5 (1988)

The Luminosity Function for the CfA Redshift Survey Slices. *Valérie de Lapparent, Margaret J. Geller, & John P. Huchra.* 343, 1, 118-A9 (1989)

Groups of Galaxies in the Center for Astrophysics Redshift Survey. *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 344, 57, 133-F7 (1989)

The CfA Redshift Survey: Data for the NGP +30 Zone. *John P. Huchra, Margaret J. Geller, Valérie de Lapparent, & Harold G. Corwin, Jr.* 72, 433, 8-B1 (1990)

The Two-Point Correlation Function for Groups of Galaxies in the Center for Astrophysics Redshift Survey. *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 353, 51, 62-F7 (1990)

The Kinematics of Abell Clusters. *Ann I. Zabludoff, John P. Huchra, & Margaret J. Geller.* 74, 1, 30-B1 (1990)

A Redshift Survey of IRAS Galaxies. I. Sample Selection. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 361, 49, 157-E11 (1990)

Extragalactic Globular Clusters. I. The Metallicity Calibration. *Jean P. Brodie & John P. Huchra.* 362, 503, 177-A7 (1990)

HUDGINS, DOUGLAS. The Ni/Fe Ratio in the Crab Nebula. *Douglas Hudgins, Terry Herter, & Richard J. Joyce.* 354, L57, 86-C11 (1990)

HUDSON, J. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

HUEBNER, W. F. Polyoxymethylene in Comet Halley. *W. F. Huebner, D. C. Boice, & C. M. Sharp.* 320, L149, 121-F7 (1987)

Molecular Equilibrium with Condensation. *C. M. Sharp & W. F. Huebner.* 72, 417, 7-F5 (1990)

HUENEMOERDER, DAVID P. CCD Echelle Observations of the Active RS CVn System II Pegasi. *David P. Huenemoerder & Lawrence W. Ramsey.* 319, 392, 97-D5 (1987)

A Flare Event on the Long-Period RS Canum Venaticorum System IM Pegasi. *Derek L. Buzasi, Lawrence W. Ramsey, & David P. Huenemoerder.* 322, 353, 141-F8 (1987)

Coordinated Optical and Ultraviolet Observations of IM Pegasi. *David P. Huenemoerder, Lawrence W. Ramsey, & Derek L. Buzasi.* 350, 763, 35-D13 (1990)

Fiber-optic Echelle CCD Observations of SS Bootis. *Jeffrey C. Hall, David P. Huenemoerder, Lawrence W. Ramsey, & Derek L. Buzasi.* 358, 610, 131-B3 (1990)

HUETER, GEOFFREY. Application of the V/V_{max} Test to Gamma-Ray Bursts. *Maarten Schmidt, J. C. Higdon, & Geoffrey Hueter.* 329, L85, 89-C14 (1988)

HUGGINS, P. J. Variability of Lyman-Alpha and the Ultraviolet Continuum of 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, & A. L. Kinney.* 301, 698, 23-C3 (1986)

Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Asymmetries in the CO Lines of IRC +10216. *P. J. Huggins & A. P. Healy.* 304, 418, 58-D7 (1986)

CO in the Helix Nebula. *P. J. Huggins & A. P. Healy.* 305, L29, 74-C2 (1986)

The Ionization Structure of the Circumstellar Envelope of Alpha Orionis. *A. E. Glassgold & P. J. Huggins.* 306, 605, 91-B11 (1986)

CO in the Circumstellar Envelope of Alpha Orionis. *P. J. Huggins.* 313, 400, 19-D5 (1987)

The Ultraviolet Spectra of Intermediate-Redshift Quasars. II. *A. L. Kinney, P. J. Huggins, A. E. Glassgold, & J. N. Bregman.* 314, 145, 29-E7 (1987)

The Photodissociation of CO in Circumstellar Envelopes. *G. A. Mamon, A. E. Glassgold, & P. J. Huggins.* 328, 797, 71-G3 (1988)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

The CO Envelope of IRC +10216. *P. J. Huggins, H. Olofsson, & L. E. B. Johansson.* 332, 1009, 135-E2 (1988)

Molecule Formation in Fast Neutral Winds from Protostars. *A. E. Glassgold, G. A. Mamon, & P. J. Huggins.* 336, L29, 8-E1 (1989)

CO in Planetary Nebulae. *P. J. Huggins & A. P. Healy.* 346, 201, 168-E11 (1989)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

HUGHES, C. A. Binding Energies of Q-Nuclei and Stellar Hydrogen Burning. *C. A. Hughes, S. D. Bloom, & G. J. Mathews.* 311, 485, 151-C10 (1986)

Binding Energies of Q-Nuclei and Stellar Hydrogen Burning: Erratum. *C. A. Hughes, S. D. Bloom, & G. J. Mathews.* 325, 520, 24-G8 (1988) (Orig. paper in 311, 485, 151-C10 (1986))

HUGHES, D. H. Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)

HUGHES, J. A. Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)

Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

HUGHES, JOHN P. X-Ray Studies of the Supernova Remnant N132D. I. Morphology. *John P. Hughes.* 314, 103, 29-B6 (1987)

Isothermality of the Gas in the Coma Cluster. *John P. Hughes, Koujun Yamashita, Yoshiharu Okumura, Hiroshi Tsunemi, & Masaru Matsuoka.* 327, 615, 55-D6 (1988)

Measurements of the Gas Temperature and Iron Abundance Distribution in the Coma Cluster. *John P. Hughes, P. Gorenstein, & D. Fabricant.* 329, 82, 75-G6 (1988)

The Mass of the Coma Cluster: Combined X-Ray and Optical Results. *John P. Hughes.* 337, 21, 17-C5 (1989)

HUGHES, P. A. Dynamical Heating of Stars as a Fueling Mechanism for Active Galactic Nuclei. *A. J. Allen & P. A. Hughes.* 313, 152, 16-F2 (1987)

Synchrotron Emission from Shocked Relativistic Jets. I. The Theory of Radio-Wavelength Variability and Its Relation to Superluminal Motion. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 341, 54, 84-F1 (1989)

Synchrotron Emission from Shocked Relativistic Jets. II. A Model for the Centimeter Wave Band Quiescent and Burst Emission from BL Lacertae. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 341, 68, 84-G1 (1989)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

HUGHES, PHILIP A. Multifrequency Observations of the Double-Nucleus Galaxy Markarian 266: Enhanced Synchrotron Emission Induced by a Merger. *Joseph M. Mazzarella, Ralph A. Gaume, Hugh D. Aller, & Philip A. Hughes.* 333, 168, 139-G8 (1988)

HUGHES, V. A. Radio Emission from FK Comae. *V. A. Hughes & B. J. McLean.* 313, 263, 17-G5 (1987)

Radio Observations of Cepheus A. I. The Evolving Pre–Main-Sequence Stars in Cepheus A East? *V. A. Hughes.* 333, 788, 149-A1 (1988)

CO $J = 2–1$ Observations of the NGC 2071 Molecular Outflow: A Wind-driven Shell. *G. H. Moriarty-Schieven, R. L. Snell, & V. A. Hughes.* 347, 358, 186-E1 (1989)

A Comparison of the Radio Continuum and Optical Properties of the HH Objects in Cepheus A West (GGD 37). *V. A. Hughes & G. Moriarty-Schieven.* 360, 215, 147-F3 (1990)

HUGUENIN, G. RICHARD. Observations and Analysis of HDO in Interstellar Clouds. *Ellen L. Moore, William D. Langer, & G. Richard Huguenin.* 306, 682, 92-A7 (1986)

HUI, X. Maximum Entropy Deconvolution of the Optical Jet of 3C 273. *I. N. Evans, H. C. Ford, & X. Hui.* 347, 68, 183-A1 (1989)

HUMBLE, J. E. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata,*

H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration). 344, L17, 140-B9 (1989)

Were Solar Neutrons Observed by Neutron Monitors on 1984 April 25? *D. F. Smart, M. A. Shea, E. O. Flückiger, H. Debrunner, & J. E. Humble.* 73, 269, 21-D5 (1990)

HUMMEL, E. H I in Barred Spiral Galaxies. II. NGC 1097. *M. P. Ondrechen, J. M. van der Hulst, & E. Hummel.* 342, 39, 101-D13 (1989)

HUMMER, D. G. Photospheres of Hot Stars. II. An Analysis of Zeta Puppis. *Bruce Bohannan, David C. Abbott, Stephen A. Voels, & D. G. Hummer.* 308, 728, 117-A1 (1986)

A Fast and Accurate Method for Evaluating the Nonrelativistic Free-free Gaunt Factor for Hydrogenic Ions. *D. G. Hummer.* 327, 477, 52-C5 (1988)

Failure of Continuum Methods for Determining the Effective Temperature of Hot Stars. *D. G. Hummer, David C. Abbott, Stephen A. Voels, & Bruce Bohannan.* 328, 704, 70-G1 (1988)

The Equation of State for Stellar Envelopes. I. An Occupation Probability Formalism for the Truncation of Internal Partition Functions. *D. G. Hummer & Dimitri Mihalas.* 331, 794, 117-F1 (1988)

The Equation of State for Stellar Envelopes. II. Algorithm and Selected Results. *Dimitri Mihalas, Werner Däppen, & D. G. Hummer.* 331, 815, 117-G8 (1988)

The Equation of State for Stellar Envelopes. III. Thermodynamic Quantities. *Werner Däppen, Dimitri Mihalas, D. G. Hummer, & Barbara Weibel Mihalas.* 332, 261, 126-A8 (1988)

Photospheres of Hot Stars. III. Luminosity Effects at Spectral Type O9.5. *Stephen A. Voels, Bruce Bohannan, David C. Abbott, & D. G. Hummer.* 340, 1073, 81-F1 (1989)

The Equation of State for Stellar Envelopes. IV. Thermodynamic Quantities and Selected Ionization Fractions for Six Elemental Mixes. *Dimitri Mihalas, D. G. Hummer, Barbara Weibel Mihalas, & Werner Däppen.* 350, 300, 28-F7 (1990)

HUMMER, DAVID G. Photospheres of Hot Stars. IV. Spectral Type O4. *Bruce Bohannan, Stephen A. Voels, David G. Hummer, & David C. Abbott.* 365, 729, 217-C13 (1990)

HUMPHREYS, ROBERTA M. The Use of the Brightest Blue Supergiants as Distance Indicators—Further Complications; or the Brightest "Stars" Are Not Always Stars. *Roberta M. Humphreys & Marc Aaronson.* 318, L69, 92-C14 (1987)

HUNSTEAD, R. W. Absorption Spectrum of the $z = 3.78$ QSO 2000−330. I. The Lyman-Alpha Forest Region at 1.5 Å Resolution. *R. W. Hunstead, H. S. Murdoch, B. A. Peterson, J. C. Blades, D. L. Jauncey, A. E. Wright, M. Pettini, & A. Savage.* 305, 496, 72-E8 (1986)

Absorption Spectrum of the $z = 3.78$ QSO 2000−330. II. The Redshift and Equivalent Width Distributions of Primordial Hydrogen Clouds. *H. S. Murdoch, R. W. Hunstead, M. Pettini, & J. C. Blades.* 309, 19, 120-B10 (1986)

The Distribution of Lyman-Alpha Absorption Lines in High-Redshift QSOs: The Case for Evolution Reexamined. *R. W. Hunstead, H. S. Murdoch, M. Pettini, & J. C. Blades.* 329, 527, 82-C10 (1988)

HUNSTEAD, RICHARD W. Metal Enrichment, Dust, and Star Formation in Galaxies at High Redshifts. I. The $z = 2.3091$ Absorber toward PHL 957. *Max Pettini, Alec Boksenberg, & Richard W. Hunstead.* 348, 48, 1-F1 (1990)

Metal Enrichment, Dust, and Star Formation in Galaxies at High Redshifts. II. Lyman-Alpha Emission from the $z = 2.465$ Absorber toward Q0836+113. *Richard W. Hunstead, Max Pettini, & André B. Fletcher.* 356, 23, 99-C11 (1990)

HUNTER, C. Nonuniqueness of Self-consistent Equilibrium Solutions for the Perfect Elliptic Disk. *P. T. de Zeeuw, C. Hunter, & M. Schwarzschild.* 317, 507, 72-F11 (1987)

Oblate Galaxy Models with Thin-Tube Orbits. *P. T. de Zeeuw & C. Hunter.* 356, 365, 104-G1 (1990)

Prolate Galaxy Models with Thin-Tube Orbits. *C. Hunter, P. T. de Zeeuw, Ch. Park, & M. Schwarzschild.* 363, 367, 188-F1 (1990)

HUNTER, DEIDRE A. *IRAS* Observations of a Small Sample of Blue Irregular Galaxies. *Deidre A. Hunter, Fred C. Gillett, John S. Gallagher III, Walter L. Rice, & Frank J. Low.* 303, 171, 42-G14 (1986)

Star Formation in the Magellanic Irregular Galaxy NGC 4449. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, D. A. Harper, & R. Decher.* 317, 180, 66-A3 (1987)

The Magellanic Irregular Galaxy NGC 4214: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, Matthew Greenhouse, & D. A. Harper.* 334, 605, 162-A10 (1988)

IRAS Observations of a Large Sample of Normal Irregular Galaxies. *Deidre A. Hunter, John S. Gallagher III, Walter L. Rice, & Fred C. Gillett.* 336, 152, 3-A1 (1989)

The Interacting Galaxy Pair NGC 4485 and NGC 4490: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, Sean Casey, William B. Latter, & D. A. Harper.* 339, 803, 61-F7 (1989)

Star Formation and the Interstellar Medium in Two Peculiar, Nonspiral Galaxies: NGC 1569 and NGC 3593. *Deidre A. Hunter, Harley A. Thronson, Jr., Sean Casey, & D. A. Harper.* 341, 697, 94-A1 (1989)

Submillimeter Continuum Emission from Galaxies: Star Formation and the Interstellar Medium in the Local Group Dwarf IC 10. *Harley A. Thronson, Jr., Deidre A. Hunter, Sean Casey, & D. A. Harper.* 355, 94, 88-B9 (1990)

Properties of Ionized Interstellar Froth in Irregular Galaxies. *Deidre A. Hunter & John S. Gallagher III.* 362, 480, 176-E5 (1990)

One Galaxy from Several: The Hickson Compact Group H31. *Vera C. Rubin, Deidre A. Hunter, & W. Kent Ford, Jr.* 365, 86, 207-A10 (1990)

HUNTER, J. H., JR. A Critical Examination of Thick Disks with Equatorial Accretion. *J. H. Hunter, Jr., & R. E. Wilson.* 302, 11, 28-B3 (1986)

A Critical Examination of Thick Disks with Equatorial Accretion: Erratum. *J. H. Hunter, Jr., & R. E. Wilson.* 308, 1018, 120-B12 (1986) (Orig. paper in 302, 11, 28-B3 (1986))

Dynamical Models of the Barred Spiral Galaxy NGC 3992. *J. H. Hunter, Jr., R. Ball, J. M. Huntley, Martin N. England, & S. T. Gottesman.* 324, 721, 11-B14 (1988)

Comparison of Stellar and Gasdynamics of a Barred Galaxy. *G. Contopoulos, S. T. Gottesman, J. H. Hunter, Jr., & M. N. England.* 343, 608, 126-G1 (1989)

High-Resolution Observations, Kinematics, and Dynamics of the Barred Spiral NGC 1073. *Martin N. England, S. T. Gottesman, & J. H. Hunter, Jr.* 348, 456, 8-C4 (1990)

HUNTER, JAMES H., JR. Star Formation in Colliding Gas Flows. *James H. Hunter, Jr., Maxwell T. Sandford II, Rodney W. Whitaker, & Richard I. Klein.* 305, 309, 70-D4 (1986)

Anisentropic, Magnetized Kelvin-Helmholtz and Related Instabilities in the Interstellar Medium. *James H. Hunter, Jr., & Rodney W. Whitaker.* 71, 777, 47-B1 (1989)

HUNTLEY, J. M. Dynamical Models of the Barred Spiral Galaxy NGC 3992. *J. H. Hunter, Jr., R. Ball, J. M. Huntley, Martin N. England, & S. T. Gottesman.* 324, 721, 11-B14 (1988)

HUNTRESS, W. T., JR. Chemistry of Chlorine in Dense Interstellar Clouds. *Geoffrey A. Blake, V. G. Anicich, & W. T. Huntress, Jr.* 300, 415, 5-E9 (1986)

A Survey of Bimolecular Ion-Molecule Reactions for Use in Modeling the Chemistry of Planetary Atmospheres, Cometary Comae, and Interstellar Clouds. *V. G. Anicich & W. T. Huntress, Jr.* 62, 553, 38-E8 (1986)

Diffuse Interstellar Clouds as a Chemical Laboratory: The Chemistry of Diatomic Carbon Species. *S. R. Federman & W. T. Huntress, Jr.* 338, 140, 34-F11 (1989)

Modeling the Chemistry of Dense Interstellar Clouds. I. Observational Constraints for the Chemistry. *S. R. Federman, W. T. Huntress, Jr., & S. S. Prasad.* 354, 504, 82-F1 (1990)

HUNTRESS, WESLEY. The Detection of High-Velocity Outflows from M8E-IR. *George F. Mitchell, Mark Allen, Reinhard Beer, Richard Dekany, Wesley Huntress, & Jean-Pierre Maillard.* 327, L17, 53-B6 (1988)

HUOVELIN, JUHANI. Relations between Broad-Band Linear Polarization and Ca II H and K Emission in Late-Type Dwarf Stars. *Juhani Huovelin, Steven H. Saar, & Ilkka Tuominen.* 329, 882, 86-F6 (1988)

HURFORD, G. J. Multifrequency Observations of a Solar Active Region during a Partial Eclipse. *Dale E. Gary & G. J. Hurford.* 317, 522, 69-E12 (1987)
A Simple Solar Microwave Burst Observed with High Spectral Resolution. *Dale E. Gary & G. J. Hurford.* 339, 1115, 65-D2 (1989)
First High Spatial Resolution Interferometric Observations of Solar Flares at Millimeter Wavelengths. *M. R. Kundu, S. M. White, N. Gopalswamy, J. H. Bieging, & G. J. Hurford.* 358, L69, 133-E8 (1990)
Multifrequency Observations of a Solar Microwave Burst with Two-dimensional Spatial Resolution. *Dale E. Gary & G. J. Hurford.* 361, 290, 160-E1 (1990)
HURLBURT, NEAL E. Nonlinear Compressible Convection Penetrating into Stable Layers and Producing Internal Gravity Waves. *Neal E. Hurlburt, Juri Toomre, & Josep M. Massaguer.* 311, 563, 154-A10 (1986)
Magnetic Fields Interacting with Nonlinear Compressible Convection. *Neal E. Hurlburt & Juri Toomre.* 327, 920, 58-F6 (1988)
Supersonic Convection. *Fausto Cattaneo, Neal E. Hurlburt, & Juri Toomre.* 349, L63, 24-D6 (1990)
HURLEY, K. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)
Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)
A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)
Short Solar Events with Evidence of Repetitive Structures. *Upendra D. Desai, Chryssa Kouveliotou, C. Barat, K. Hurley, M. Niel, R. Talon, G. Vedrenne, I. V. Estulin, & V. Ch. Dolidze.* 319, 567, 99-E1 (1987)
Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)
A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)
SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806−20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)
Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)
HURLEY, KEVIN. OTS 1809+314 and the Gamma-Ray Burst GB 790325b. *Dieter Hartmann, Richard W. Pogge, Kevin Hurley, Frederick J. Vrba, & Mark C. Jennings.* 336, 889, 13-E6 (1989)
HURLEY, KEVIN C. An Upper Limit to X-Ray Emission from Saturn. *David A. Gilman, Kevin C. Hurley, Frederick D. Seward, Herbert W. Schnopper, James D. Sullivan, & Albert E. Metzger.* 300, 453, 6-A9 (1986)
HURWITZ, MARK. Discovery of Molecular Hydrogen Fluorescence in the Diffuse Interstellar Medium. *Christopher Martin, Mark Hurwitz, & Stuart Bowyer.* 354, 220, 76-F3 (1990)
HUSFELD, D. Evolutionary versus Dynamical Time Scales for the Evolution of the Central Stars of Planetary Nebulae. *J. K. McCarthy, J. R. Mould, R. H. Mendez, R. P. Kudritzki, D. Husfeld, A. Herrero, & H. G. Groth.* 351, 230, 40-G10 (1990)
HUT, P. A Phenomenological Triple Star Scenario for SS 433. *A. C. Fabian, P. P. Eggleton, P. Hut, & J. E. Pringle.* 305, 333, 70-F11 (1986)
HUT, PIET. Dynamical Instabilities in Spherical Stellar Systems. *Joshua Barnes, Jeremy Goodman, & Piet Hut.* 300, 112, 2-B12 (1986)
Performance Analysis of Direct *N*-Body Calculations. *Junichiro Makino & Piet Hut.* 68, 833, 36-B1 (1988)
On the Evolution of Globular Cluster Systems. I. Present Characteristics and Rate of Destruction in Our Galaxy. *Luis Aguilar, Piet Hut, & Jeremiah P. Ostriker.* 335, 720, 180-E1 (1988)
Error Analysis of a Tree Code. *Joshua E. Barnes & Piet Hut.* 70, 389, 23-F11 (1989)
Gravothermal Oscillations after Core Collapse in Globular Cluster Evolution. *Haldan Cohn, Piet Hut, & Michael Wise.* 342, 814, 112-E1 (1989)
Star Cluster Evolution with Primordial Binaries. I. A Comparative Study. *Steve McMillan, Piet Hut, & Junichiro Makino.* 362, 522, 177-C1 (1990)
Bottlenecks in Simulations of Dense Stellar Systems. *Junichiro Makino & Piet Hut.* 365, 208, 208-F11 (1990)
HUTCHINGS, J. B. Optical Observations of the X-Ray Nova EXO 0748−676 near Maximum Light. *D. Crampton, A. P. Cowley, J. Stauffer, P. Ianna, & J. B. Hutchings.* 306, 599, 91-B5 (1986)
Imaging Spectroscopy of Five QSOs. *Paul Hickson & J. B. Hutchings.* 312, 518, 8-E6 (1987)
What Is the Difference between Radio Galaxies and Radio Quasar Galaxies? *J. B. Hutchings.* 320, 122, 109-D1 (1987)
Kinematics and Age of the Low-Mass X-Ray Binaries. *A. P. Cowley, J. B. Hutchings, David Crampton, & F. D. A. Hartwick.* 320, 296, 111-C11 (1987)
CAL 83: A Puzzling X-Ray Source in the Large Magellanic Cloud. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, I. B. Thompson, & James Liebert.* 321, 745, 132-F3 (1987)
Are There Stellar Winds in the Hot Stars of M31? *J. B. Hutchings, Philip Massey, & L. Bianchi.* 322, L79, 152-B13 (1987)
Optical Images of Quasars and Radio Galaxies. *J. B. Hutchings, I. Johnson, & R. Pyke.* 66, 361, 8-B1 (1988)
Radio Evolution of Quasars at $z < 1$. *J. B. Hutchings, Rob Price, & Ann C. Gower.* 329, 122, 76-C11 (1988)
Massive Star-Formation Regions in the Magellanic Clouds. *J. B. Hutchings & I. B. Thompson.* 331, 294, 109-D1 (1988)
Spectroscopy and Kinematics of the Low-Mass X-Ray Binaries. *A. P. Cowley, J. B. Hutchings, & D. Crampton.* 333, 906, 150-C1 (1988)
What Is the Difference between Radio-loud and Radio-quiet Objects? *J. B. Hutchings, T. Janson, & S. G. Neff.* 342, 660, 110-F11 (1989)
CAL 87: An Eclipsing Black Hole Binary? *A. P. Cowley, P. C. Schmidtke, D. Crampton, & J. B. Hutchings.* 350, 288, 28-E4 (1990)
The Low-Mass X-Ray Binary LMC X-2. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, & I. B. Thompson.* 355, 496, 94-F1 (1990)
HUTCHINGS, JOHN B. PG 1411+442: The Nearest Broad Absorption Line Quasar. *Matthew A. Malkan, Richard F. Green, & John B. Hutchings.* 322, 729, 147-G6 (1987)
HUTERS, A. F. Current Status of the Galactic Center Positron-Annihilation Source. *M. Leventhal, C. J. MacCallum, A. F. Huters, & P. D. Stang.* 302, 459, 33-C3 (1986)
A New Constraint on the Galactic Plane ^{26}Al Distribution. *C. J. MacCullum, A. F. Huters, P. D. Stang, & M. Leventhal.* 317, 877, 75-F1 (1987)
HUTSEMÉKERS, DAMIEN. Formation of P Cygni Line Profiles in Relativistically Expanding Atmospheres. *Damien Hutsemékers & Jean Surdej.* 361, 367, 162-F7 (1990)
HUTTER, D. J. Application of a Relativistic Jet Model to the Study of BL Lacertae Objects. *D. J. Hutter & S. L. Mufson.* 301, 50, 14-E2 (1986)
Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)

Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

An Evolving Relativistic Jet Model for the BL Lacertae Object Markarian 421. *S. L. Mufson, D. J. Hutter, Y. Kondo, C. M. Urry, & W. Z. Wiśniewski.* 354, 116, 75-D9 (1990)

HWANG, JAI-CHAN. The Gravitational Instability of Collisionless Particles in a Cosmological Self-similar Shell. *Jai-chan Hwang, Ethan T. Vishniac, & Paul R. Shapiro.* 346, 12, 166-C1 (1989)

Analyzing Cosmological Perturbations Using the Covariant Approach. *Jai-chan Hwang & Ethan T. Vishniac.* 353, 1, 62-B1 (1990)

HYLAND, A. R. An Active Star Formation Site in RCW 108. *Steven Straw, A. R. Hyland, Terry J. Jones, Paul M. Harvey, Bruce A. Wilking, & Marshall Joy.* 314, 283, 31-B12 (1987)

A Near-Infrared Study of the NGC 6334-IV Region. *P. M. Harvey, A. R. Hyland, & S. M. Straw.* 317, 173, 65-G8 (1987)

Atomic and Molecular Line Emission from Early-Type High-Luminosity Stars. *P. J. McGregor, A. R. Hyland, & D. J. Hillier.* 324, 1071, 15-C7 (1988)

Far-Infrared Emission from the AG Carinae Ring. *Peter J. McGregor, Keith Finlayson, A. R. Hyland, Marshall Joy, Paul M. Harvey, & Dan F. Lester.* 329, 874, 86-E12 (1988)

Detection of Highly Ionized Silicon in the Planetary Nebulae NGC 6302 and NGC 6537. *Michael C. B. Ashley & A. R. Hyland.* 331, 532, 112-C10 (1988)

CO Overtone Emission from Magellanic Cloud Supergiants. *Peter J. McGregor, D. J. Hillier, & A. R. Hyland.* 334, 639, 163-D4 (1988)

The Centers of Star Formation in NGC 6334 and Their Stellar Mass Distributions. *Steven M. Straw, A. R. Hyland, & Peter J. McGregor.* 69, 99, 2-C1 (1989)

The Optical and Near-Infrared Distribution of Light in the Edge-on Galaxy IC 2531. *R. J. Wainscoat, K. C. Freeman, & A. R. Hyland.* 337, 163, 19-C1 (1989)

Global Aspects of the NGC 6334 Star Formation Complex: An Infrared Survey. *Steven M. Straw & A. R. Hyland.* 340, 318, 71-A5 (1989)

Extensive Shocked Molecular Hydrogen Emission in NGC 6334. *Steven M. Straw & A. R. Hyland.* 342, 876, 113-B10 (1989)

Near-Infrared Surface Photometry of Three Early-Type, Edge-on Spiral Galaxies: NGC 4594, NGC 7123, and NGC 7814. *R. J. Wainscoat, A. R. Hyland, & K. C. Freeman.* 348, 85, 2-B1 (1990)

IANNA, P. Optical Observations of the X-Ray Nova EXO 0748–676 near Maximum Light. *D. Crampton, A. P. Cowley, J. Stauffer, P. Ianna, & J. B. Hutchings.* 306, 599, 91-B5 (1986)

IBÁÑEZ, J. Finite Perturbations on Friedmann-Robertson-Walker Models. *J. Ibáñez & E. Verdaguer.* 306, 401, 88-G7 (1986)

Surface Phenomena and the Evolution of Radiating Fluid Spheres in General Relativity. *L. Herrera, J. Jimenez, M. Esculpi, & J. Ibáñez.* 345, 918, 162-A3 (1989)

Conformally Symmetric Spheres in the Thin Wall Approximation. *L. Herrera, J. Ibáñez, & A. Di Prisco.* 353, 579, 71-B4 (1990)

IBÁÑEZ, JOSÉ M^a. Field Theoretical Model for Nuclear and Neutron Matter. IV. Radial Oscillations of Warm Cores in Neutron Stars. *José M^a. Martí, Juan A. Miralles, J. Diaz Alonso, & José M^a. Ibáñez.* 329, 780, 85-E1 (1988)

IBÁÑEZ S., MIGUEL H. On the Propagation of Small Disturbances in a Reacting-Radiating Fluid. *Miguel H. Ibáñez S.* 308, 382, 112-B14 (1986)

Effects of the Thermal Conduction on the Propagation of Linear Waves in a Radiating Fluid. *Miguel H. Ibàñez S., & Florencio P. Plachco M.* 336, 875, 13-D3 (1989)

IBEN, ICKO, JR. The Effects of Diffusion Due to Gravity and Due to Composition Gradients on the Rate of Hydrogen Burning in a Cooling Degenerate Dwarf. II. Dependence on Initial Metallicity and on Buffer Mass. *Icko Iben, Jr., & Jim MacDonald.* 301, 164, 15-F7 (1986)

Evolutionary Period Changes in Variable Helium-rich White Dwarfs. *Steven D. Kawaler, D. E. Winget, Icko Iben, Jr., & C. J. Hansen.* 302, 530, 36-C12 (1986)

On the Evolution of Binary Components Which First Fill Their Roche Lobes after the Exhaustion of Central Helium. *Icko Iben, Jr.* 304, 201, 56-A14 (1986)

Relaxation Oscillations of a Helium-burning Star: Helium Shell Flashes Not Triggered by the Accumulation of a Critical Mass. *Icko Iben, Jr., Masayuki Y. Fujimoto, Daiichiro Sugimoto, & Shigeki Miyaji.* 304, 217, 56-C8 (1986)

On the Behavior of Double Degenerate Binaries Associated with Type I Supernovae. *A. G. W. Cameron & Icko Iben, Jr.* 305, 228, 69-D14 (1986)

The Helium Shell Game: Nonradial *g*-Mode Instabilities in Hydrogen-deficient Planetary Nebula Nuclei. *Steven D. Kawaler, D. E. Winget, C. J. Hansen, & Icko Iben, Jr.* 306, L41, 86-C13 (1986)

On the Formation and Evolution of a Helium Degenerate Dwarf in a Close Binary. *Icko Iben, Jr., & Alexander V. Tutukov.* 311, 742, 155-G9 (1986)

On the Number-Mass Distribution of Degenerate Dwarfs Produced by the Interacting Binaries and Evidence for Mergers of Low-Mass Helium Dwarfs. *Icko Iben, Jr., & Alexander V. Tutukov.* 311, 753, 156-A6 (1986)

Evolutionary Scenarios for Intermediate-Mass Stars in Close Binaries. *Icko Iben, Jr., & Alexander V. Tutukov.* 313, 727, 24-F8 (1987)

Thermal Evolution of Accreting Neutron Stars. II. Long X-Ray Bursts as a Probe into the Interior. *Masayuki Y. Fujimoto, Tomoyuki Hanawa, Icko Iben, Jr., & Martin B. Richardson.* 315, 198, 42-B9 (1987)

On Interacting Helium Star–White Dwarf Pairs as Supernova Precursors. *Icko Iben, Jr., Ken'ichi Nomoto, Amedeo Tornambè, & Alexander V. Tutukov.* 317, 717, 73-G11 (1987)

Degenerate Dwarf Binaries as Promising, Detectable Sources of Gravitational Radiation. *Charles R. Evans, Icko Iben, Jr., & Larry Smarr.* 323, 129, 154-E1 (1987)

Common Envelope Formation and the Merging of Degenerate Dwarf Binaries. *Icko Iben, Jr.* 324, 355, 5-A13 (1988)

Nucleosynthesis of Solar System Material in a Low-Mass, Low-Metallicity Asymptotic Giant Branch Star. *David Hollowell & Icko Iben, Jr.* 333, L25, 144-C3 (1988)

Neutron Production and Neutron-Capture Nucleosynthesis in a Low-Mass, Low-Metallicity Asymptotic Giant Branch Star. *David Hollowell & Icko Iben, Jr.* 340, 966, 80-D1 (1989)

Behavior of Low-Mass, Main-Sequence Stars in Response to Accretion. *Masayuki Y. Fujimoto & Icko Iben, Jr.* 341, 306, 87-F3 (1989)

A Study of the White Dwarf Luminosity Function. *Icko Iben, Jr., & Gregory Laughlin.* 341, 312, 87-F9 (1989)

Model Stars with Degenerate Dwarf Cores and Helium-burning Shells: A Stationary-burning Approximation. *Icko Iben, Jr., & Alexander V. Tutukov.* 342, 430, 106-A14 (1989)

On the Origin of Hot Subdwarfs in Globular Clusters. *Charles D. Bailyn & Icko Iben, Jr.* 347, L21, 189-C9 (1989)

On Lithium Removal from G Dwarfs. *L. M. Hobbs, Icko Iben, Jr., & Catherine Pilachowski.* 347, 817, 193-E1 (1989)

Algorithms for Neutron Density and *s*-Process Nucleosynthesis in a Low-Mass Asymptotic Giant Branch Star. *David Hollowell & Icko Iben, Jr.* 349, 208, 16-E1 (1990)

Helium Flashes and Hydrogen Mixing in Low-Mass Population III Stars. *Masayuki Y. Fujimoto, Icko Iben, Jr., & David Hollowell.* 349, 580, 22-E1 (1990)

Hydrogen Burning and Dredge-up during the Major Core Helium Flash in a $Z = 0$ Model Star. *David Hollowell, Icko Iben, Jr., & Masayuki Y. Fujimoto.* 351, 245, 41-B1 (1990)

On the Consequences of Low-Mass White Dwarf Mergers. *Icko Iben, Jr.* 353, 215, 64-G1 (1990)

On Lithium Removal from G Dwarfs: Erratum. *L. M. Hobbs, Icko Iben, Jr., & Catherine Pilachowski.* 355, 745, 97-G5 (1990) (Orig. paper in 347, 817, 193-E1 (1989))

ICHIKAWA, SHIN-ICHI. Surface Photometry of Dwarf Elliptical Galaxies in the Virgo Cluster. *Shin-ichi Ichikawa, Ken-ichi Wakamatsu, & Sadanori Okamura.* 60, 475, 6-G10 (1986)

Surface Photometry of Dwarf Elliptical Galaxies in the Virgo Cluster: Erratum. *Shin-ichi Ichikawa, Ken-ichi Wakamatsu, &*

Sadanori Okamura. 62, 253, 34-E9 (1986) (Orig. paper in 60, 475, 6-G10 (1986))

ICHIMARU, SETSUO. Freezing Transition and Phase Diagram of Dense Carbon-Oxygen Mixtures in White Dwarfs. *Setsuo Ichimaru, Hiroshi Iyetomi, & Shuji Ogata.* 334, L17, 161-C1 (1988)

Electric and Thermal Conductivities of Quenched Neutron Star Crusts. *Shuji Ogata & Setsuo Ichimaru.* 361, 511, 164-D10 (1990)

IGLESIAS, C. A. Reexamination of the Metal Contribution to Astrophysical Opacity. *C. A. Iglesias, F. J. Rogers, & B. G. Wilson.* 322, L45, 145-D2 (1987)

Opacities for Classical Cepheid Models. *C. A. Iglesias, F. J. Rogers, & B. G. Wilson.* 360, 221, 147-F10 (1990)

IKAWA, TOSHIKI. Hydrodynamic Models of RR*ab* Variables: Comparison of Observed and Theoretical Light Curves. *Norman R. Simon & Toshiki Ikawa.* 304, 249, 56-F1 (1986)

IKEUCHI, SATORU. Evolution of the Intergalactic Medium: What Happened during the Epoch z = 3–10? *Satoru Ikeuchi & Jeremiah P. Ostriker.* 301, 522, 21-D6 (1986)

The Formation and Evolution of Dwarf Galaxies and Lyman-Alpha Clouds: Two-Component Dark Matter. *Satoru Ikeuchi & Colin A. Norman.* 312, 485, 8-C1 (1987)

Formation of Stellar Shells and X-Ray Coronae around Elliptical Galaxies. *Masayuki Umemura & Satoru Ikeuchi.* 319, 601, 101-E5 (1987)

On the Origin of Possible Deviation from the Blackbody Spectrum of the Cosmic Microwave Background Radiation: Inverse Compton Hypothesis Based upon the Explosion Scenario. *Satoshi Yoshioka & Satoru Ikeuchi.* 323, L7, 158-A10 (1987)

A Two-Component Dark Matter Universe. II. Linear Fluctuation Theory. *Satoru Ikeuchi, Colin Norman, & Yin Zhan.* 324, 35, 1-C13 (1988)

Gasdynamical Calculations of Preferred Planes in Prolate and Triaxial Galaxies. II. The Case of a Tumbling Potential. *Asao Habe & Satoru Ikeuchi.* 326, 84, 32-G9 (1988)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. I. Basic Equations and Numerical Methods. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 326, 208, 34-D7 (1988)

Starburst Nucleus: Galactic Scale Bipolar Flow. *Kohji Tomisaka & Satoru Ikeuchi.* 330, 695, 100-B6 (1988)

Spiral Patterns on a Differentially Rotating Galactic Disk: Self-organized Structures in Galaxies. *Toshiya Nozakura & Satoru Ikeuchi.* 333, 68, 138-F6 (1988)

Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. II. The Extreme Case: Nonrotating Clouds. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 335, 239, 173-B9 (1988)

The Large-Scale Structure of the Universe and the Division of Space. *Satoshi Yoshioka & Satoru Ikeuchi.* 341, 16, 84-B13 (1989)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. III. Critical Mass. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 341, 220, 86-F1 (1989)

The Disk-Halo Interaction: Superbubbles and the Structure of the Interstellar Medium. *Colin A. Norman & Satoru Ikeuchi.* 345, 372, 153-F12 (1989)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. III. Critical Mass: Erratum. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 346, 1061, 180-C3 (1989) (Orig. paper in 341, 220, 86-F1 (1989))

On the Observabilities of the Chimney Model of the Interstellar Medium. *Fan Li & Satoru Ikeuchi.* 73, 401, 23-F5 (1990)

Collision of Cosmological Shock Waves Produced by Explosions and Formation of Large-Scale Structures. *Satoshi Yoshioka & Satoru Ikeuchi.* 360, 352, 150-F1 (1990)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. IV. Quasi-static Evolution. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 362, 202, 171-F3 (1990)

ILLINGWORTH, G. D. Galaxy Collisions and Mergers: The Genesis of Very Powerful Radio Sources? *T. M. Heckman, Eric P. Smith, Stefi A. Baum, W. J. M. van Breugel, G. K. Miley, G. D. Illingworth, G. D. Bothun, & B. Balick.* 311, 526, 153-D2 (1986)

Stellar Dynamics of Powerful Radio Galaxies. *Eric P. Smith, T. M. Heckman, & G. D. Illingworth.* 356, 399, 105-C1 (1990)

ILLINGWORTH, GARTH. Discovery of Cepheids in M101. *Kem H. Cook, Marc Aaronson, & Garth Illingworth.* 301, L45, 27-B6 (1986)

Major and Minor Axis Kinematics of 22 Ellipticals. *Marijn Franx, Garth Illingworth, & Timothy Heckman.* 344, 613, 142-B3 (1989)

Color Gradients in Elliptical Galaxies. *Marijn Franx & Garth Illingworth.* 359, L41, 144-B4 (1990)

ILLINGWORTH, GARTH D. The Dynamics of the Active Galaxy NGC 1052. *Roger L. Davies & Garth D. Illingworth.* 302, 234, 30-D10 (1986)

A Counterrotating Core in IC 1459. *Marijn Franx & Garth D. Illingworth.* 327, L55, 61-C2 (1988)

Velocity Mapping and Models of the Elliptical Galaxies NGC 720, NGC 1052, and NGC 4697. *J. J. Binney, Roger L. Davies, & Garth D. Illingworth.* 361, 78, 158-A5 (1990)

ILOVAISKY, SERGIO A. Outburst, Identification, and X-Ray Light Curve of GS 1354–64 (=MX 1353–64?, Centaurus X-2?). *Shunji Kitamoto, Hiroshi Tsunemi, Holger Pedersen, Sergio A. Ilovaisky, & Michiel van der Klis.* 361, 590, 165-D3 (1990)

IMAMURA, J. A 190 Second Periodicity in the Optical Emission of the Enigmatic X-Ray Source GX 339–4. *T. Steiman-Cameron, J. Imamura, J. Middleditch, & J. Kristian.* 359, 197, 136-E1 (1990)

IMAMURA, J. N. X-Ray and Ultraviolet Radiation from Accreting White Dwarfs. IV. Two-Temperature Treatment with Electron Thermal Conduction. *J. N. Imamura, R. H. Durisen, D. Q. Lamb, & G. J. Weast.* 313, 298, 18-B14 (1987)

A Search for Optical Millisecond Pulsars in Globular Clusters. *J. H. Middleditch, J. N. Imamura, & T. Y. Steiman-Cameron.* 335, 753, 181-A1 (1988)

Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

IMAMURA, JAMES N. High-Speed Multicolor Photometry of AN Ursae Majoris. *James N. Imamura & Thomas Y. Steiman-Cameron.* 311, 786, 156-C13 (1986)

The X-Ray Emission from Gamma-Ray Burst Sources: Constraints on Theoretical Models. *James N. Imamura & Richard I. Epstein.* 313, 711, 24-E6 (1987)

A Possible 1.13 Millisecond Periodicity in GX 339–4. *James N. Imamura, Thomas Y. Steiman-Cameron, & John Middleditch.* 314, L11, 33-B13 (1987)

Rapid Optical Flaring in MXB 1735–444 and an Optical Burst from GX 17+2. *James N. Imamura, Thomas Y. Steiman-Cameron, & John Middleditch.* 320, L41, 114-D3 (1987)

High-Speed Optical Photometry of the DQ Herculis Object H2215–086. *Thomas Y. Steiman-Cameron, James N. Imamura, & Debra V. Steiman-Cameron.* 339, 434, 55-D1 (1989)

On the Stability Properties of White Dwarf Radiative Shocks: Settling Solutions. *James N. Imamura & Michael T. Wolff.* 355, 216, 89-E9 (1990)

The 8 Second Optical Quasi-periodic Oscillations in GX 339–4. *James N. Imamura, Jerome Kristian, John Middleditch, & Thomas Y. Steiman-Cameron.* 365, 312, 210-C5 (1990)

IMHOFF, C. L. X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, N. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

Ultraviolet Spectroscopy of Pre–Main-Sequence Accretion Disks. *S. J. Kenyon, L. Hartmann, C. L. Imhoff, & A. Cassatella.* 344, 925, 145-E9 (1989)

IMPEY, C. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

IMPEY, C. D. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L.*

Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell. 301, 708, 23-C13 (1986)

1E 1415.6+2557: An X-Ray–Selected BL Lacertae Object in a Luminous Galaxy. *J. P. Halpern, C. D. Impey, G. D. Bothun, S. Tapia, E. D. Skillman, A. S. Wilson, & E. J. A. Meurs.* 302, 711, 38-D5 (1986)

Simultaneous Submillimeter and Infrared Observations of Flat-Spectrum Radio Sources. *T. L. Roellig, E. E. Becklin, C. D. Impey, & M. W. Werner.* 304, 646, 63-B4 (1986)

Infrared Studies of Elliptical Galaxies. I. An Optically Selected Sample. *C. D. Impey, C. G. Wynn-Williams, & E. E. Becklin.* 309, 572, 127-D12 (1986)

New Blazars Discovered by Polarimetry. *C. D. Impey & S. Tapia.* 333, 666, 147-D7 (1988)

The Miniblazar in 3C 273. *C. D. Impey, M. A. Malkan, & S. Tapia.* 347, 96, 183-C9 (1989)

The Optical Polarization Properties of Quasars. *C. D. Impey & S. Tapia.* 354, 124, 75-E5 (1990)

Infrared Studies of Elliptical Galaxies. II. A Radio-selected Sample. *C. D. Impey, C. G. Wynn-Williams, & E. E. Becklin.* 356, 62, 99-G1 (1990)

IMPEY, CHRIS. Virgo Dwarfs: New Light on Faint Galaxies. *Chris Impey, Greg Bothun, & David Malin.* 330, 634, 99-D6 (1988)

Malin 1: A Quiescent Disk Galaxy. *Chris Impey & Greg Bothun.* 341, 89, 85-B1 (1989)

The Wasilewski Sample of Emission-Line Galaxies: Follow-up CCD Imaging and Spectroscopic and *IRAS* Observations. *Gregory D. Bothun, Jules P. Halpern, Carol J. Lonsdale, Chris Impey, & Mark Schmitz.* 70, 271, 22-C7 (1989)

An Optical Counterpart to the H I Cloud in the Local Supercluster. *Chris Impey, Gregory Bothun, David Malin, & Lister Staveley-Smith.* 351, L33, 49-C1 (1990)

IMPEY, CHRISTOPHER D. Discovery of a Second Giant Low Surface Brightness Galaxy: Further Confirmation of Slowly Evolving Disk Galaxies. *Gregory D. Bothun, James M. Schombert, Christopher D. Impey, & Stephen E. Schneider.* 360, 427, 151-F1 (1990)

INAGAKI, SHOGO. Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and *N*-Body Simulations. *Makoto Itoh, Shogo Inagaki, & William C. Saslaw.* 331, 45, 106-E1 (1988)

A Gravitational Thermodynamic Approach to Probe the Primordial Spectrum of Cosmological Density Fluctuations. *Yasushi Suto, Makoto Itoh, & Shogo Inagaki.* 350, 492, 32-D1 (1990)

Gravitational Clustering of Galaxies: Comparison of Thermodynamic Theory and *N*-Body Simulations. II. The Effects of Different Mass Components. *Makoto Itoh, Shogo Inagaki, & William C. Saslaw.* 356, 315, 104-C1 (1990)

The Kinetic Evolution and Velocity Distribution of Gravitational Galaxy Clustering. *William C. Saslaw, S. M. Chitre, Makoto Itoh, & Shogo Inagaki.* 365, 419, 213-C1 (1990)

INGRAHAM, R. L. Possible Loss of Mechanical Stability by Degenerate Charged Fermi Gases in Intense Magnetic Fields. *R. L. Ingraham.* 309, 628, 128-B6 (1986)

Ripple Structure in Degenerate Electron Gas–dominated Stars with Intense Magnetic Fields. *J. M. Wilkes & R. L. Ingraham.* 344, 399, 137-G12 (1989)

INOUE, H. X-Ray Spectrum from Gamma Cassiopeiae. *T. Murakami, K. Koyama, H. Inoue, & P. C. Agrawal.* 310, L31, 138-C5 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

X-Ray Irradiated Accretion Disks and Bimodal States. *H. Inoue & R. Hoshi.* 322, 320, 141-C11 (1987)

X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)

Ginga Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

INOUE, M. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

VLA Observations of the Radio Galaxy Hydra A (3C 218). *G. B. Taylor, R. A. Perley, M. Inoue, T. Kato, H. Tabara, & K. Aizu.* 360, 41, 145-E5 (1990)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

IOVINO, A. The Clustering of Quasars. *A. Iovino & P. A. Shaver.* 330, L13, 96-D6 (1988)

IOVINO, ANGELA. The Clustering of H II Galaxies. *Angela Iovino, Jorge Melnick, & Peter Shaver.* 330, L17, 96-D10 (1988)

IP, W.-H. Photochemical Heating of Cometary Comae: The Effect of Icy Water Droplet Recondensation. *W.-H. Ip.* 300, 456, 6-A12 (1986)

On Charge Exchange Effect in the Vicinity of the Cometopause of Comet Halley. *W.-H. Ip.* 343, 946, 130-G6 (1989)

Photochemical Heating of Cometary Comae. III. The Radial Variation of the Expansion Velocity of CN Shells in Comet Halley. *W.-H. Ip.* 346, 475, 172-A9 (1989)

Energetic Neutral Atoms in Cometary Comae. *W.-H. Ip.* 353, 290, 65-G3 (1990)

On Solar Radiation–driven Surface Transport of Sodium Atoms at Mercury. *W.-H. Ip.* 356, 675, 108-E9 (1990)

Titan's Upper Ionosphere. *W.-H. Ip.* 362, 354, 173-E1 (1990)

IPSER, JAMES R. Rapidly Rotating Neutron Star Models. *John L. Friedman, James R. Ipser, & Leonard Parker.* 304, 115, 55-B11 (1986)

On the Maximum Mass of a Uniformly Rotating Neutron Star. *John L. Friedman & James R. Ipser.* 314, 594, 36-A13 (1987)

Turning Point Method for Axisymmetric Stability of Rotating Relativistic Stars. *John L. Friedman, James R. Ipser, & Rafael D. Sorkin.* 325, 722, 28-D10 (1988)

Rapidly Rotating Neutron Star Models: Erratum. *John L. Friedman, James R. Ipser, & Leonard Parker.* 351, 705, 48-G9 (1990) (Orig.

paper in 304, 115, 55-B11 (1986))
The Oscillations of Rapidly Rotating Newtonian Stellar Models. *James R. Ipser & Lee Lindblom.* 355, 226, 89-F7 (1990)

IRELAND, TREVOR R. Large ^{48}Ca Anomalies Are Associated with ^{50}Ti Anomalies in Murchison and Murray Hibonites. *Ernst K. Zinner, Albert J. Fahey, Jitendra N. Goswami, Trevor R. Ireland, & Kevin D. McKeegan.* 311, L103, 160-G1 (1986)

IRVINE, NELSON J. HD 93521: A High-Latitude Shell Star. *Nelson J. Irvine.* 337, L33, 25-C11 (1989)

IRVINE, W. M. The C_3H_2 2_{20}–2_{11} Transition: Absorption in Cold Dark Clouds. *H. E. Matthews, S. C. Madden, L. W. Avery, & W. M. Irvine.* 307, L69, 107-D6 (1986)
A Study of C_3HD in Cold Interstellar Clouds. *M. B. Bell, L. W. Avery, H. E. Matthews, P. A. Feldman, J. K. G. Watson, S. C. Madden, & W. M. Irvine.* 326, 924, 43-F2 (1988)
Observations of Interstellar $HOCO^+$: Abundance Enhancements toward the Galactic Center. *Y. C. Minh, W. M. Irvine, & L. M. Ziurys.* 334, 175, 156-C1 (1988)
Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)
Laboratory Detection of a New Interstellar Free Radical $CH_2CN(^2B_1)$. *Shuji Saito, Satoshi Yamamoto, W. M. Irvine, L. M. Ziurys, Hiroko Suzuki, Masatoshi Ohishi, & Norio Kaifu.* 334, L113, 169-F10 (1988)
A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)
Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews, Y. Minh, S. Saito, N. Ukita, & S. Yamamoto.* 342, 871, 113-B5 (1989)
Interstellar SiO as a Tracer of High-Temperature Chemistry. *L. M. Ziurys, P. Friberg, & W. M. Irvine.* 343, 201, 120-F5 (1989)
An Upper Limit to the Acetylene Abundance toward BN in the Orion Molecular Cloud. *R. F. Knacke, Y. H. Kim, & W. M. Irvine.* 345, 265, 152-D5 (1989)
Detection of Interstellar Hydrogen Sulfide in Cold, Dark Clouds. *Y. C. Minh, W. M. Irvine, & L. M. Ziurys.* 345, L63, 157-F5 (1989)
Interstellar Cyanomethane. *B. E. Turner, P. Friberg, W. M. Irvine, S. Saito, & S. Yamamoto.* 355, 546, 95-C4 (1990)
Detection of Nitric Oxide in the Dark Cloud L134N. *D. McGonagle, L. M. Ziurys, W. M. Irvine, & Y. C. Minh.* 359, 121, 135-E5 (1990)
Observations of H_2S toward OMC-1. *Y. C. Minh, L. M. Ziurys, W. M. Irvine, & D. McGonagle.* 360, 136, 146-F9 (1990)

IRVINE, WILLIAM M. New Interstellar Masers in Nonmetastable Ammonia. *Suzanne C. Madden, William M. Irvine, Henry E. Matthews, Ronald D. Brown, & Peter D. Godfrey.* 300, L79, 13-F2 (1986)
Variations in the HCN/HNC Abundance Ratio in the Orion Molecular Cloud. *Paul F. Goldsmith, William M. Irvine, Åke Hjalmarson, & Joel Elldér.* 310, 383, 136-B10 (1986)
HCN Production from Comet Halley. *F. Peter Schloerb, Wayne M. Kinzel, Daryl A. Swade, & William M. Irvine.* 310, L55, 138-D12 (1986)
Detection of ^{13}C-substituted C_3H_2 in Astronomical Sources. *Suzanne C. Madden, William M. Irvine, & Henry E. Matthews.* 311, L27, 152-C8 (1986)
Detection of a New Circumstellar Carbon Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)

IRWIN, ALAN W. Yellow Giants: A New Class of Radial Velocity Variable? *G. A. H. Walker, S. Yang, Bruce Campbell, & Alan W. Irwin.* 343, L21, 125-D1 (1989)
The Prediction of Stellar Effective Temperatures from the Mixing-Length Theory of Convection. *Brian B. Pedersen, Don A. VandenBerg, & Alan W. Irwin.* 352, 279, 53-C12 (1990)

IRWIN, JUDITH A. Evidence for Ram Pressure Stripping of NGC 3073 by Outflowing Gas from NGC 3079. *Judith A. Irwin, E. R. Seaquist, A. R. Taylor, & N. Duric.* 313, L91, 27-E3 (1987)
Nuclear Jets in the Radio Lobe Spiral Galaxy NGC 3079. *Judith A. Irwin & E. R. Seaquist.* 335, 658, 179-F8 (1988)
Heiles Shells in NGC 3079. *Judith A. Irwin & E. R. Seaquist.* 353, 469, 69-G4 (1990)

IRWIN, M. J. Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 351, 271, 41-D2 (1990)
Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object: Erratum. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 357, 291, 114-F6 (1990) (Orig. paper in 351, 271, 41-D2 (1990))

IRWIN, MICHAEL J. A New Wide-Separation Gravitational Lens Candidate. *Paul C. Hewett, Rachel L. Webster, Margaret E. Harding, Robert J. Jedrzejewski, Craig B. Foltz, Frederic H. Chaffee, Michael J. Irwin, & Olivier Le Fèvre.* 346, L61, 181-B12 (1989)
An Optical Counterpart of the Giant H I Cloud H I 1225+0146. *Richard G. McMahon, Michael J. Irwin, Riccardo Giovanelli, Martha P. Haynes, Arthur M. Wolfe, & C. Hazard.* 359, 302, 139-G1 (1990)

ISAACMAN, R. B. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

ISAACSON, JEFFREY A. Probabilities for Gravitational Lensing by Point Masses in a Locally Inhomogeneous Universe. *Jeffrey A. Isaacson & Claude R. Canizares.* 336, 544, 9-C6 (1989)

ISERN, JORDI. The Final Stages of Evolution of Cold, Mass-accreting White Dwarfs. *Margarita Hernanz, Jordi Isern, Ramon Canal, Javier Labay, & Robert Mochkovitch.* 324, 331, 4-G3 (1988)
On the Intrinsic Differences among Type Ia Supernovae. *Ramón Canal, Jordi Isern, & Rosario López.* 330, L113, 104-G12 (1988)
Can C+O White Dwarfs Form Neutron Stars? *Ramon Canal, Domingo García, Jordi Isern, & Javier Labay.* 356, L51, 110-C1 (1990)

ISHIDA, M. Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

ISHIGURO, M. High-Resolution Observations of CO from the Bipolar Nebula CRL 2688. *R. Kawabe, M. Ishiguro, T. Kasuga, K.-I. Morita, N. Ukita, H. Kobayashi, S. Okumura, E. Fomalont, & N. Kaifu.* 314, 322, 31-F1 (1987)
Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)
Nuclear Concentration of Molecular Gas in the Late-Type Spiral Galaxy NGC 6946: 300 Parsec Scale Gaseous Disk. *S. Ishizuki, R. Kawabe, M. Ishiguro, S. K. Okumura, K.-I. Morita, Y. Chikada, T. Kasuga, & M. Doi.* 355, 436, 93-G3 (1990)

ISHIGURO, MASATO. Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M–0.13–0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)
New H_2O Masers in the NGC 7538 Region. *Osamu Kameya, Koh-Ichiro Morita, Ryohei Kawabe, & Masato Ishiguro.* 355, 562, 95-D7 (1990)

Aperture Synthesis Observations of NH_3 in OMC-1: Filamentary Structures around Orion-KL. *Yasuhiro Murata, Ryohei Kawabe, Masato Ishiguro, Koh-Ichiro Morita, Takashi Kasuga, Toshiaki Takano, & Tetsuo Hasegawa.* 359, 125, 135-E9 (1990)

ISHIKAWA, S. Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

ISHIKAWA, SHIN-ICHI. Detection of Intense Unidentified Lines in TMC-1. *Norio Kaifu, Hiroko Suzuki, Masatoshi Ohishi, Takeshi Miyaji, Shin-ichi Ishikawa, Takashi Kasuga, Masaki Morimoto, & Shuji Saito.* 317, L111, 78-E14 (1987)

Laboratory and Astronomical Detection of the Cyclic H_3H Radical. *Satoshi Yamamoto, Shuji Saito, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, Norio Kaifu, & Akinori Murakami.* 322, L55, 145-D12 (1987)

The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)

The Microwave Spectrum of the CP Radical and Related Astronomical Search. *Shuji Saito, Satoshi Yamamoto, Kentarou Kawaguchi, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, & Norio Kaifu.* 341, 1114, 99-A1 (1989)

Detection of a New Circumstellar Carbon Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)

Laboratory Microwave Spectroscopy of the Linear C_3 and C_3D Radicals and Related Astronomical Observation. *Satoshi Yamamoto, Shuji Saito, Hiroko Suzuki, Shuji Deguchi, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 348, 363, 5-E1 (1990)

Rotational Spectrum of the CCS Radical Studied by Laboratory Microwave Spectroscopy and Radio-astronomical Observations. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Yoshihiro Chikada, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 361, 318, 160-G7 (1990)

Detection of Five ^{13}C Isotopic Species of HC_5N in TMC-1. *Shuro Takano, Hiroko Suzuki, Masatoshi Ohishi, Shin-ichi Ishikawa, Norio Kaifu, Yasuhiro Hirahara, & Akimasa Masuda.* 361, L15, 161-D11 (1990)

ISHIZUKI, S. Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

Nuclear Concentration of Molecular Gas in the Late-Type Spiral Galaxy NGC 6946: 300 Parsec Scale Gaseous Disk. *S. Ishizuki, R. Kawabe, M. Ishiguro, S. K. Okumura, K.-I. Morita, Y. Chikada, T. Kasuga, & M. Doi.* 355, 436, 93-G3 (1990)

ISOBE, TAKASHI. Statistical Methods for Astronomical Data with Upper Limits. II. Correlation and Regression. *Takashi Isobe, Eric D. Feigelson, & Paul I. Nelson.* 306, 490, 89-G3 (1986)

Evidence of an Infrared Luminosity Indicator for Galaxies. *Eric D. Feigelson, Takashi Isobe, & Daniel W. Weedman.* 319, L51, 107-C4 (1987)

Linear Regression in Astronomy. I. *Takashi Isobe, Eric D. Feigelson, Michael G. Akritas, & Gutti Jogesh Babu.* 364, 104, 195-C7 (1990)

ISRAEL, F. P. Carbon Monoxide in the Magellanic Clouds. *F. P. Israel, Th. de Graauw, H. van de Stadt, & C. P. de Vries.* 303, 186, 43-B4 (1986)

Low-Frequency Radio Continuum Evidence for Cool Ionized Gas in Normal Spiral Galaxies. *F. P. Israel & M. J. Mahoney.* 352, 30, 50-D11 (1990)

ISRAEL, FRANK. G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)

ISRAEL, M. H. Cosmic-Ray Energy Spectra between 10 and Several Hundred GeV per Atomic Mass Unit for Elements from $_{18}Ar$ to $_{28}Ni$: Results from *HEAO 3*. *W. R. Binns, T. L. Garrard, M. H. Israel, Michael D. Jones, M. P. Kamionkowski, J. Klarmann, E. C. Stone, & C. J. Waddington.* 324, 1106, 15-F3 (1988)

Abundances of Ultraheavy Elements in the Cosmic Radiation: Results from *HEAO 3*. *W. R. Binns, T. L. Garrard, P. S. Gibner, M. H. Israel, M. P. Kertzman, J. Klarmann, B. J. Newport, E. C. Stone, & C. J. Waddington.* 346, 997, 179-E1 (1989)

ISRAELIT, MARK. A Singularity-free Cosmological Model in General Relativity. *Mark Israelit & Nathan Rosen.* 342, 627, 110-D1 (1989)

ISSA, M. The Size–Line Width Relation and the Mass of Molecular Hydrogen. *M. Issa, I. MacLaren, & A. W. Wolfendale.* 352, 132, 51-F1 (1990)

ITOH, HIROSHI. X-Ray Emission from the Remnant of a Carbon Deflagration Supernova: SN 1572 (Tycho). *Hiroshi Itoh, Kuniaki Masai, & Ken'ichi Nomoto.* 334, 279, 157-D7 (1988)

X-Ray Decline and Rejuvenation of a Recurrent Nova. *Hiroshi Itoh & Izumi Hachisu.* 358, 551, 130-D3 (1990)

ITOH, M. Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

ITOH, MAKOTO. Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and *N*-Body Simulations. *Makoto Itoh, Shogo Inagaki, & William C. Saslaw.* 331, 45, 106-E1 (1988)

A Gravitational Thermodynamic Approach to Probe the Primordial Spectrum of Cosmological Density Fluctuations. *Yasushi Suto, Makoto Itoh, & Shogo Inagaki.* 350, 492, 32-D1 (1990)

Gravitational Clustering of Galaxies: Comparison of Thermodynamic Theory and *N*-Body Simulations. II. The Effects of Different Mass Components. *Makoto Itoh, Shogo Inagaki, & William C. Saslaw.* 356, 315, 104-C1 (1990)

The Kinetic Evolution and Velocity Distribution of Gravitational Galaxy Clustering. *William C. Saslaw, S. M. Chitre, Makoto Itoh, & Shogo Inagaki.* 365, 419, 213-C1 (1990)

ITOH, MASAYUKI. Gamma Rays, X-Rays, and Optical Light from the Cobalt and the Neutron Star in SN 1987A. *Shiomi Kumagai, Toshikazu Shigeyama, Ken'ichi Nomoto, Masayuki Itoh, Jun Nishimura, & Sachiko Tsuruta.* 345, 412, 154-C5 (1989)

ITOH, NAOKI. Neutrino Energy Loss in Stellar Interiors: Erratum. *Hiroharu Munakata, Yasuharu Kohyama, & Naoki Itoh.* 304, 580, 60-C1 (1986) (Orig. paper in 296, 197, 91-B4 (1985))

Neutrino Energy Loss in Stellar Interiors. II. Axial-Vector Contribution to the Plasma Neutrino Energy Loss Rate. *Yasuharu Kohyama, Naoki Itoh, & Hiroharu Munakata.* 310, 815, 142-G3 (1986)

Relativistic Free-free Gaunt Factor of the Dense High-Temperature Stellar Plasma. *Masayuki Nakagawa, Yasuharu Kohyama, & Naoki Itoh.* 63, 661, 10-E14 (1987)

Neutrino-Pair Bremsstrahlung in Dense Stars. V. Partially Degenerate Electrons. *Hiroharu Munakata, Yasuharu Kohyama, & Naoki Itoh.* 316, 708, 59-G3 (1987)

Viscosity of Dense Matter. *Naoki Itoh, Yasuharu Kohyama, & Hideo Tekeuchi.* 317, 733, 74-A13 (1987)

Axion Bremsstrahlung in Dense Stars. *Masayuki Nakagawa, Yasuharu Kohyama, & Naoki Itoh.* 322, 291, 141-A9 (1987)

Neutrino-Pair Bremsstrahlung in Dense Stars. IV. Phonon Constributions in the Crystalline Lattice Phase: Erratum. *Naoki Itoh, Yasuharu Kohyama, Noriyoshi Matsumoto, & Midori Seki.* 322, 584, 144-C9 (1987) (Orig. paper in 285, 304, 113-C2 (1984))

Axion Bremsstrahlung in Dense Stars. II. Phonon Contributions. *Masayuki Nakagawa, Tomoo Adachi, Yasuharu Kohyama, & Naoki Itoh.* 326, 241, 34-G7 (1988)

Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes. *Naoki Itoh, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 339, 354, 54-D5 (1989)

Relativistic Free-free Gaunt Factor of the Dense High-Temperature Stellar Plasma. II. Carbon and Oxygen Plasmas. *Naoki Itoh, Koichi Kojo, & Masayuki Nakagawa.* 74, 291, 34-B1 (1990)

Enhancement of Thermonuclear Reaction Rates in Extremely Dense Stellar Plasmas. *Naoki Itoh, Fumiyoshi Kuwashima, & Hiroharu Munakata.* 362, 620, 178-D9 (1990)

IWAI, J. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

IWASHITA, H. Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

IWASHITA, HIROYUKI. Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M−0.13−0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)

IWATA, T. Discovery of Seven Bipolar Outflows by an Unbiased Survey. *Y. Fukui, K. Sugitani, H. Takaba, T. Iwata, A. Mizuno, H. Ogawa, & K. Kawabata.* 311, L85, 160-E12 (1986)

Molecular Line Study of a Bipolar Outflow Object NGC 2071–NORTH in L1630. *T. Iwata, Y. Fukui, & H. Ogawa.* 325, 372, 23-C7 (1988)

A Bipolar Outflow: L1641-North and Its Ambient Dense Cloud. *Y. Fukui, H. Takaba, T. Iwata, & A. Mizuno.* 325, L13, 25-B4 (1988)

Flux Densities of Ultracompact H II Regions at 7 Millimeters. *Douglas O. S. Wood, T. Handa, Y. Fukui, E. Churchwell, Y. Sofue, & T. Iwata.* 326, 884, 43-C2 (1988)

A Remarkable Multilobe Molecular Outflow: ρ Ophiuchi East, Associated with IRAS 16293−2422. *A. Mizuno, Y. Fukui, T. Iwata, S. Nozawa, & T. Takano.* 356, 184, 101-D1 (1990)

IWATA, TAKAHIRO. High-Resolution CO Observations of NGC 1068. *Noboru Kaneko, Kazuhiko Morita, Yasuo Fukui, Koji Sugitani, Takahiro Iwata, Naomasa Nakai, Norio Kaifu, & Harvey S. Liszt.* 337, 691, 27-E7 (1989)

A Further Study of the Molecular Cloud Associated with the Supernova Remnant G109.1−1.0. *Ken'ichi Tatematsu, Yasuo Fukui, Takahiro Iwata, Frederick D. Seward, & Makoto Nakano.* 351, 157, 40-A4 (1990)

IYE, MASANORI. Morphological Type Correlation between Nearest Neighbor Pairs of Galaxies. *Tomohiko Yamagata, Masafumi Noguchi, & Masanori Iye.* 338, 707, 42-E11 (1989)

IYENGAR, K. V. K. Far-Infrared (120–300 Micron) Observations of the Carina Nebula. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 330, 928, 102-F6 (1988)

Far-Infrared (120–300 Micron) Observations of Southern H II Regions. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 69, 233, 4-D1 (1989)

Far-Infrared and Radio Observations of the W31 Star-forming Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, R. R. Daniel, & Paul T. P. Ho.* 347, 338, 186-C3 (1989)

Far-Infrared Observations of G351.6−1.3/G351.7−1.2 Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 353, 564, 71-A1 (1990)

IYETOMI, HIROSHI. Freezing Transition and Phase Diagram of Dense Carbon-Oxygen Mixtures in White Dwarfs. *Setsuo Ichimaru, Hiroshi Iyetomi, & Shuji Ogata.* 334, L17, 161-C1 (1988)

IZUMIURA, H. Water Maser Emission toward V788 Cygni, a Carbon Star. *Y. Nakada, H. Izumiura, T. Onaka, O. Hashimoto, N. Ukita, S. Deguchi, & T. Tanabé.* 323, L77, 158-F6 (1987)

Position Confirmation of Water Maser Emission from V778 Cygni, a Carbon Star. *S. Deguchi, R. Kawabe, N. Ukita, Y. Nakada, T. Onaka, H. Izumiura, & Sadanori Okamura.* 325, 795, 29-C5 (1988)

V Hydrae: A Carbon Star in Transformation to a Bipolar Nebula. *T. Tsuji, W. Unno, N. Kaifu, H. Izumiura, N. Ukita, S. Cho, & K. Koyama.* 327, L23, 53-C1 (1988)

A Sensitive Line Search in Circumstellar Envelopes. *Nguyen-Quang-Rieu, S. Deguchi, H. Izumiura, N. Kaifu, M. Ohishi, H. Suzuki, & Nobuharu Ukita.* 330, 374, 94-D1 (1988)

Molecular Envelope of the Planetary Nebula NGC 7027. *S. Deguchi, H. Izumiura, N. Kaifu, X. Mao, Nguyen-Q-Rieu, & N. Ukita.* 351, 522, 46-E9 (1990)

IZUMIURA, HIDEYUKI. Detection of $H^{13}CN$ Maser Emission from the Ground State toward Y Canum Venaticorum. *Hideyuki Izumiura, Nobuharu Ukita, Ryohei Kawabe, Norio Kaifu, Takashi Tsuji, Wasaburo Unno, & Kouichi Koyama.* 323, L81, 158-F10 (1987)

IZZO, C. The Transient 42 Second X-Ray Pulsar EXO 2030+375. I. The Discovery and the Luminosity Dependence of the Pulse Period Variations. *A. N. Parmar, N. E. White, L. Stella, C. Izzo, & P. Ferri.* 338, 359, 37-D6 (1989)

JABLONKA, P. Absorption-Line Gradients in the Optical Spectrum of the M31 Globular Cluster Vetesnik 42. *T. J. Davidge, D. Alloin, & P. Jablonka.* 358, L1, 127-A6 (1990)

JABLONSKI, F. On the Stability of the 13.2 Minute Oscillation of V1223 Sagittarii. *F. Jablonski & J. E. Steiner.* 323, 672, 162-B2 (1987)

JABLONSKI, F. J. NSV 12615: An Eclipsing Cataclysmic Variable with Ultrashort Period. *F. J. Jablonski & J. E. Steiner.* 313, 376, 19-A13 (1987)

JACEE COLLABORATION, THE. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

JACKSON, J. M. Molecular Absorption Lines toward the Nucleus of Centaurus A. *A. Eckart, M. Cameron, R. Genzel, J. M. Jackson, H. Rothermel, J. Stutzki, G. Rydbeck, & T. Wiklind.* 365, 522, 214-F7 (1990)

JACKSON, JAMES M. Elongated CO Structure in the Starburst Galaxy NGC 2146. *James M. Jackson & Paul T. P. Ho.* 324, L5, 9-A7 (1988)

A Rotating Circumstellar Molecular Disk Surrounding NGC 6334 I. *James M. Jackson, Paul T. P. Ho, & Aubrey D. Haschick.* 333, L73, 152-E5 (1988)

Aperture Synthesis Observations of Shocked SO_2 in the Bipolar Nebula OH 231.8+4.2. *James M. Jackson & Nguyen-Quang-Rieu.* 335, L83, 185-E6 (1988)

CO in Optically Selected Starburst Galaxies. *James M. Jackson, Ronald L. Snell, Paul T. P. Ho, & Alan H. Barrett.* 337, 680, 27-D10 (1989)

VLA Imaging of Extragalactic Ammonia: Hot Gas in the Nucleus of IC 342. *Paul T. P. Ho, Robert N. Martin, Jean L. Turner, & James M. Jackson.* 355, L19, 92-C1 (1990)

JACKSON, P. D. Microwave Observations of Flare Stars UV Ceti, AT Microscopii, and AU Microscopii. *M. R. Kundu, P. D. Jackson, S. M. White, & M. Melozzi.* 312, 822, 12-A1 (1987)

Variability of Metric Emission from the Sun. *R. K. Shevgaonkar, M. R. Kundu, & P. D. Jackson.* 329, 982, 87-G5 (1988)

JACKSON, PETER D. Narrow-Band Radio Flares from Red Dwarf Stars. *Stephen M. White, Mukul R. Kundu, & Peter D. Jackson.* 311, 814, 156-F7 (1986)

Dynamic Spectrum of a Radio Flare on UV Ceti. *Peter D. Jackson, Mukul R. Kundu, & Stephen M. White.* 316, L85, 62-C14 (1987)

A VLA Survey of Nearby Flare Stars. *Stephen M. White, Peter D. Jackson, & Mukul R. Kundu.* 71, 895, 48-E9 (1989)

JACKSON, W. M. The Origin of CS in Comet IRAS-Araki-Alcock 1983d. *W. M. Jackson, P. S. Butterworth, & D. Ballard.* 304, 515, 59-E6 (1986)

JACOBS, V. L. Effect of Coronal Elemental Abundances on the Radiative Loss Function. *J. W. Cook, C.-C. Cheng, V. L. Jacobs, & S. K. Antiochos.* 338, 1176, 48-B9 (1989)

JACOBS, VERNE L. Photorecombination Rates of Hydrogenic and Nonhydrogenic States. *Balazs F. Rozsnyai & Verne L. Jacobs.* 327, 485, 52-D1 (1988)

JACOBSON, A. S. Gamma-Ray Burst Localization by *HEAO 3*. *R. A. Schwartz, J. C. Ling, W. A. Mahoney, & A. S. Jacobson.* 317, 846, 75-C7 (1987)
Long-Term Gamma-Ray Spectral Variability of Cygnus X-1. *J. C. Ling, W. A. Mahoney, Wm. A. Wheaton, & A. S. Jacobson.* 321, L117, 137-B8 (1987)
Gamma-Ray Observations of ^{56}Co in SN 1987A. *W. A. Mahoney, L. S. Varnell, A. S. Jacobson, J. C. Ling, R. G. Radocinski, & Wm. A. Wheaton.* 334, L81, 169-D5 (1988)
JACOBSON, ALLAN S. The Gamma-Ray Spectrum of the Galactic Center Region: Erratum. *Guenter R. Riegler, James C. Ling, William A. Mahoney, Wm. A. Wheaton, & Allan S. Jacobson.* 305, L33, 74-C6 (1986) (Orig. paper in 294, L13, 71-E12 (1985))
JACOBY, G. H. The Optical/Infrared Counterpart(s) of IRAS 18333–2357. *F. C. Gillett, G. H. Jacoby, R. R. Joyce, J. G. Cohen, G. Neugebauer, B. T. Soifer, T. Nakajima, & K. Matthews.* 338, 862, 44-F1 (1989)
JACOBY, GEORGE H. Chemical Abundances of Planetary Nebulae in M31. *George H. Jacoby & Holland C. Ford.* 304, 490, 59-C5 (1986)
Bubbles and Braided Jets in Galaxies with Compact Radio Nuclei. *Holland C. Ford, Oved Dahari, George H. Jacoby, Patrick C. Crane, & Robin Ciardullo.* 311, L7, 152-A11 (1986)
Multiple-Shell Planetary Nebulae. I. Morphologies and Frequency of Occurrence. *You-Hua Chu, George H. Jacoby, & Richard Arendt.* 64, 529, 24-C1 (1987)
The Spatial Distribution and Population of Novae in M31. *Robin Ciardullo, Holland C. Ford, James D. Neill, George H. Jacoby, & Allen W. Shafter.* 318, 520, 86-E6 (1987)
Identification of the Central Star of NGC 7027. *George H. Jacoby.* 333, 193, 140-B6 (1988)
Planetary Nebulae as Standard Candles. I. Evolutionary Models. *George H. Jacoby.* 339, 39, 50-E1 (1989)
Planetary Nebulae as Standard Candles. II. The Calibration in M31 and Its Companions. *Robin Ciardullo, George H. Jacoby, Holland C. Ford, & James D. Neill.* 339, 53, 50-F1 (1989)
Planetary Nebulae as Standard Candles. III. The Distance to M81. *George H. Jacoby, Robin Ciardullo, Holland C. Ford, & John Booth.* 344, 704, 143-B1 (1989)
Planetary Nebulae as Standard Candles. IV. A Test in the Leo I Group. *Robin Ciardullo, George H. Jacoby, & Holland C. Ford.* 344, 715, 143-C2 (1989)
Central Star Temperatures of Optically Thick Planetary Nebulae and a Distance-independent Test of Dredge-up Theory. *James B. Kaler & George H. Jacoby.* 345, 871, 161-D5 (1989)
Planetary Nebulae as Standard Candles. V. The Distance to the Virgo Cluster. *George H. Jacoby, Robin Ciardullo, & Holland C. Ford.* 356, 332, 104-D6 (1990)
The Relation between Chemical Enrichment and Core Mass in Planetary Nebulae. *James B. Kaler & George H. Jacoby.* 362, 491, 176-G7 (1990)
Planetary Nebulae as Standard Candles. VI. A Test in the Magellanic Clouds. *George H. Jacoby, Alistair R. Walker, & Robin Ciardullo.* 365, 471, 213-G7 (1990)
JAFELICE, LUIZ C. Current Generation in Extragalactic Jets by Cerenkov Damping of Magnetohydrodynamic Waves. *Luiz C. Jafelice, Reuven Opher, Altair S. Assis, & José Busnardo-Neto.* 348, 61, 1-G2 (1990)
JAFFE, A. The Standard Solar Model: Composition, Opacities, and Seismology. *D. B. Guenther, A. Jaffe, & P. Demarque.* 345, 1022, 163-C3 (1989)
JAFFE, D. T. Warm Dense Gas in Luminous Protostellar Regions: A Submillimeter and Far-Infrared CO Line Study. *D. T. Jaffe, A. I. Harris, & R. Genzel.* 316, 231, 52-E1 (1987)
Aperture Synthesis Observations of the Circumnuclear Ring in the Galactic Center. *R. Güsten, R. Genzel, M. C. H. Wright, D. T. Jaffe, J. Stutzki, & A. I. Harris.* 318, 124, 80-C8 (1987)
Submillimeter and Far-Infrared Spectroscopy of M17 and S106: UV-heated, Quiescent Molecular Gas? *A. I. Harris, J. Stutzki, R. Genzel, J. B. Lugten, G. J. Stacey, & D. T. Jaffe.* 322, L49, 145-D6 (1987)
First Detection of HCN J = 9–8 (797 GHz) Line Emission: Very High Densities in the Orion Core. *J. Stutzki, R. Genzel, A. I. Harris, J. Herman, & D. T. Jaffe.* 330, L125, 105-A9 (1988)
Submillimeter and Far-Infrared Line Observations of M17 SW: A Clumpy Molecular Cloud Penetrated by Ultraviolet Radiation. *J. Stutzki, G. J. Stacey, R. Genzel, A. I. Harris, D. T. Jaffe, & J. B. Lugten.* 332, 379, 127-C6 (1988)
High Spatial Resolution Observations of Neutral Atomic Carbon in the Molecular Clouds M17 and W51. *R. Genzel, A. I. Harris, D. T. Jaffe, & J. Stutzki.* 332, 1049, 136-A7 (1988)
First Detection of SO_2 and CH_3OH Emission and One Unidentified Line near 800 GHz. *J. Stutzki, R. Genzel, U. U. Graf, A. I. Harris, & D. T. Jaffe.* 340, L37, 75-F5 (1989)
Strong, Spatially Extended CO 7→6 Emission from Luminous Cloud Cores: W52 and DR 21. *D. T. Jaffe, R. Genzel, A. I. Harris, J. B. Lugten, G. J. Stacey, & J. Stutzki.* 344, 265, 136-C10 (1989)
Warm Gas and Spatial Variations of Molecular Excitation in the Nuclear Region of IC 342. *A. Eckart, D. Downes, R. Genzel, A. I. Harris, D. T. Jaffe, & W. Wild.* 348, 434, 8-A3 (1990)
Warm Dense Gas in the Reflection Nebula NGC 2023. *D. T. Jaffe, R. Genzel, A. I. Harris, J. E. Howe, G. J. Stacey, & J. Stutzki.* 353, 193, 64-E1 (1990)
Detection of ^{13}CO $J = 3 \rightarrow 2$ in IC 342: Warm, Clumpy Molecular Gas. *W. F. Wall & D. T. Jaffe.* 361, L45, 168-C1 (1990)
JAFFE, W. Radio Continuum Survey of the Coma/A1367 Supercluster. III. Radio Properties of Galaxies in Different Density Environments. *G. Gavazzi & W. Jaffe.* 310, 53, 132-E11 (1986)
JAHODA, K. Observations of the Soft X-Ray Diffuse Background at 0.1 keV. *J. J. Bloch, K. Jahoda, M. Juda, D. McCammon, W. T. Sanders, & S. L. Snowden.* 308, L59, 120-F8 (1986)
X-Ray Study of Superclusters. *M. Persic, K. Jahoda, Y. Rephaeli, E. Boldt, F. E. Marshall, R. F. Mushotzky, & G. Rawley.* 364, 1, 194-A12 (1990)
JAHODA, KEITH. The Structure of Galactic H I in Directions of Low Total Column Density. *Felix J. Lockman, Keith Jahoda, & Dan McCammon.* 302, 432, 33-A4 (1986)
Small-Scale H I Structure and the Soft X-Ray Background. *Keith Jahoda, Dan McCammon, & Felix J. Lockman.* 311, L57, 160-C11 (1986)
A Search for X-Ray Emission Associated with the Great Attractor. *Keith Jahoda & Richard F. Mushotzky.* 346, 638, 175-D1 (1989)
Galactic H I and the Interstellar Medium in Ursa Major. *Keith Jahoda, Felix J. Lockman, & Dan McCammon.* 354, 184, 76-C1 (1990)
JAKIMIEC, J. Turbulent and Directed Plasma Motions in Solar Flares. *A. Fludra, J. R. Lemen, J. Jakimiec, R. D. Bentley, & J. Sylwester.* 344, 991, 146-C7 (1989)
JAKLITSCH, M. J. Integral Constraints on Perturbations of Robertson-Walker Cosmologies. *G. F. R. Ellis & M. J. Jaklitsch.* 346, 601, 175-A1 (1989)
JAKOBSEN, P. The Quasar Pair Tololo 1037–27 and 1038–27: Evidence for Correlated Absorption Megaparsec Scales. *P. Jakobsen, M. A. C. Perryman, M. H. Ulrich, F. Macchetto, & S. di Serego Alighieri.* 303, L27, 53-B6 (1986)
JAKOBSEN, PETER. On the Interpretation of the Soft X-Ray Background: The Effects of an Embedded Cloud Geometry. *Peter Jakobsen & Steven M. Kahn.* 309, 682, 128-F9 (1986)
$z_{abs} \sim z_{em}$ Absorption Systems in Quasar Spectra: A Correlation with Radio and Optical Luminosity? *Palle Møller & Peter Jakobsen.* 320, L75, 121-A9 (1987)
Observations of Four Faint Quasars Surrounding the Tololo 1037–271/1038–272 Quasar Pair. *Peter Jakobsen, M. A. C. Perryman, & Stefano Christiani.* 326, 710, 41-D7 (1988)
On the Interpretation of the Soft X-Ray Background. II. What Do the Beryllium Band Data Really Tell Us? *Steven M. Kahn & Peter Jakobsen.* 329, 406, 79-E4 (1988)
JAMES, DANIEL F. V. Shifts of Spectral Lines Caused by Scattering from Fluctuating Random Media. *Daniel F. V. James, Malcolm P. Savedoff, & Emil Wolf.* 359, 67, 134-G5 (1990)
The Effect of Spatial Coherence in Interferometric Measurements of Radii. *Daniel F. V. James.* 361, 650, 166-B9 (1990)
JAMESON, ANTONY. The Universe in a Box: Thermal Effects in the Standard Cold Dark Matter Scenario. *R. Y. Cen, Antony Jameson, Feng Liu, & Jeremiah P. Ostriker.* 362, L41, 181-B1 (1990)

JAMESON, R. F. Lunar Occultation of the Galactic Center at 2.2 Microns. *D. J. Adams, E. E. Becklin, R. F. Jameson, A. J. Longmore, Aa. Sandqvist, & E. Valentijn.* 327, L65, 61-C11 (1988)

JAMINET, P. A. CO $J = 3$–2 Observations of the Neutral Disk in Sagittarius A West. *E. C. Sutton, W. C. Danchi, P. A. Jaminet, & C. R. Masson.* 348, 503, 8-G10 (1990)

JANES, KENNETH A. The Open Cluster NGC 2158: Erratum. *Carol A. Christian, J. N. Heasley, & Kenneth A. Janes.* 305, 954, 79-D10 (1986) (Orig. paper in 299, 683, 135-C13 (1985))

The Luminosity Scale of RR Lyrae Stars with the Baade-Wesselink Method. I. Photometry and Radial Velocities. *Tianxing Liu & Kenneth A. Janes.* 69, 593, 10-B1 (1989)

The Luminosity Scale of RR Lyrae Stars with the Baade-Wesselink Method. II. The Absolute Magnitudes of 13 Field RR Lyrae Stars. *Tianxing Liu & Kenneth A. Janes.* 354, 273, 77-E1 (1990)

The Luminosity Scale of RR Lyrae Stars with the Baade-Wesselink Method. III. The Absolute Magnitudes of Four RR Lyrae Stars in the Globular Cluster M4. *Tianxing Liu & Kenneth A. Janes.* 360, 561, 153-C1 (1990)

JANNUZI, BUELL T. The Small Molecular Cloud toward HD 169454. *Buell T. Jannuzi, John H. Black, Charles J. Lada, & Ewine F. van Dishoeck.* 332, 995, 135-D2 (1988)

Optically Thick Infrared CO Emission in WL 16. *Rodger I. Thompson & Buell T. Jannuzi.* 344, 799, 144-B9 (1989)

JANSEN, F. Correlation between Spectral State and Quasi-periodic Oscillation Parameters in GX 5-1. *M. van der Klis, F. Jansen, J. van Paradijs, W. H. G. Lewin, M. Sztajno, & J. Trümper.* 313, L19, 21-B7 (1987)

Intensity and Source State Dependence of the Quasi-periodic Oscillations in Scorpius X-1. *M. van der Klis, L. Stella, N. White, F. Jansen, & A. N. Parmar.* 316, 411, 54-E3 (1987)

JANSON, T. What Is the Difference between Radio-loud and Radio-quiet Objects? *J. B. Hutchings, T. Janson, & S. G. Neff.* 342, 660, 110-F11 (1989)

JANSSEN, M. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

COBE Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

JANZOS COLLABORATION, THE. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

JAROSZYŃSKI, MICHAŁ. Weak Gravitational Lensing Due to Large-Scale Structure of the Universe. *Michał Jaroszyński, Changbom Park, Bohdan Paczyński, & J. Richard Gott III.* 365, 22, 206-C10 (1990)

JARRETT, T. H. Extended Far-Infrared Emission Associated with Mass Outflows from Young Stars: L1551 IRS 5. *S. Edwards, S. E. Strom, R. L. Snell, T. H. Jarrett, C. A. Beichman, & K. M. Strom.* 307, L65, 107-C10 (1986)

Far-Infrared Emission in the ρ Ophiuchi Region: A Comparison with Molecular Gas Emission and Visual Extinction. *T. H. Jarrett, R. L. Dickman, & W. Herbst.* 345, 881, 161-E1 (1989)

JARROLD, MARTIN F. A Reanalysis of the HCO^+/HOC^+ Abundance Ratio in Dense Interstellar Clouds. *Martin F. Jarrold, Michael T. Bowers, D. J. DeFrees, A. D. McLean, & Eric Herbst.* 303, 392, 45-D6 (1986)

JATENCO-PEREIRA, V. Observational Limits on the Coronal Hole Flow Geometry in an Alfvén Wave–driven Solar Wind. *V. Jatenco-Pereira & R. Opher.* 344, 513, 139-D4 (1989)

JAUNCEY, D. L. Absorption Spectrum of the $z = 3.78$ QSO 2000–330. I. The Lyman-Alpha Forest Region at 1.5 Å Resolution. *R. W. Hunstead, H. S. Murdoch, B. A. Peterson, J. C. Blades, D. L. Jauncey, A. E. Wright, M. Pettini, & A. Savage.* 305, 496, 72-E8 (1986)

VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

JAUNCEY, DAVID L. Redshifts of Southern Radio Sources. VII. *Graeme L. White, David L. Jauncey, Ann Savage, Alan E. Wright, Michael J. Batty, Bruce A. Peterson, & Sam Gulkis.* 327, 561, 54-G7 (1988)

JEDRZEJEWSKI, ROBERT. The Structure and Evolution of Hoag's Object. *François Schweizer, W. Kent Ford, Jr., Robert Jedrzejewski, & Riccardo Giovanelli.* 320, 454, 114-D3 (1987)

Evidence for Dynamical Subsystems in Elliptical Galaxies. *Robert Jedrzejewski & Paul L. Schechter.* 330, L87, 104-F1 (1988)

JEDRZEJEWSKI, ROBERT J. A New Wide-Separation Gravitational Lens Candidate. *Paul C. Hewett, Rachel L. Webster, Margaret E. Harding, Robert J. Jedrzejewski, Craig B. Foltz, Frederic H. Chaffee, Michael J. Irwin, & Olivier Le Fèvre.* 346, L61, 181-B12 (1989)

JEFFERIES, J. T. Extreme Limb Profiles of the Sun at Far-Infrared and Submillimeter Wavelengths. *C. Lindsey, E. E. Becklin, F. Q. Orrall, M. W. Werner, J. T. Jefferies, & I. Gatley.* 308, 448, 112-G13 (1986)

Statistical Concepts in Radiative Transfer through Inhomogeneous Media. *C. Lindsey & J. T. Jefferies.* 349, 286, 17-D6 (1990)

Far-Infrared Intensity Variations Caused by 5 Minute Oscillations. *C. Lindsey, G. Kopp, E. E. Becklin, T. Roellig, M. W. Werner, J. T. Jefferies, F. Q. Orrall, D. Braun, & D. L. Mickey.* 350, 475, 30-G1 (1990)

JEFFERIES, JOHN. Transfer of Line Radiation in a Magnetic Field. *John Jefferies, Bruce W. Lites, & A. Skumanich.* 343, 920, 130-E8 (1989)

JEFFERIES, JOHN T. Radiative Transfer in Inhomogeneous Atmospheres: A Statistical Approach. *John T. Jefferies & Charles A. Lindsey.* 335, 372, 174-F5 (1988)

Submillimeter Observations of the Sun from the James Clerk Maxwell Telescope. *Charles A. Lindsey, Selwyn Yee, Thomas L. Roellig, Richard Hills, David Brock, William Duncan, Graeme Watt, Adrian Webster, & John T. Jefferies.* 353, L53, 73-C6 (1990)

JEFFERIES, S. M. The 160 Minute Solar Oscillation: An Artifact? *Y. P. Elsworth, S. M. Jefferies, C. P. McLeod, R. New, P. L. Pallé, H. B. van der Raay, C. Régulo, & T. Roca Cortés.* 338, 557, 39-F7 (1989)

Modeling of Solar Oscillation Power Spectra. *E. R. Anderson, T. L. Duvall, Jr., & S. M. Jefferies.* 364, 699, 204-G4 (1990)

JEFFERY, C. SIMON. Radial Pulsation in Luminous Hot Helium Stars. *Hideyuki Saio & C. Simon Jeffery.* 328, 714, 70-G11 (1988)

JEFFERY, DAVID J. Differences among Expansion Velocities of Type Ia Supernovae. *David Branch, Wendy Drucker, & David J. Jeffery.* 330, L117, 105-A1 (1988)

The Soboloev-P Method: A Generalization of the Sobolev Method for the Treatment of the Polarization State of Radiation and the Polarizing Effect of Resonance Line Scattering. *David J. Jeffery.* 71, 951, 49-C11 (1989)

The Sobolev-P Method. III. The Sobolev-P Method Generalized for Three-dimensional Systems. *David J. Jeffery.* 352, 267, 53-B13 (1990)

JEFFERYS, WILLIAM H. Absolute Magnitudes and Kinematic Properties of RR Lyrae Stars. *Suzanne L. Hawley, William H. Jefferys, Thomas G. Barnes III, & Wan Lai.* 302, 626, 37-D11 (1986)

JEFFREY, SCOTT. The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

JEFFREY, W. On Strategies for Inverting Remote Sensing Data. *W. Jeffrey & R. Rosner.* 310, 463, 137-B3 (1986)

Optimization Algorithms: Simulated Annealing and Neural Network Processing. *W. Jeffrey & R. Rosner.* 310, 473, 137-B13 (1986)

Inversion of Helioseismology Data. *W. Jeffrey.* 327, 987, 59-F3 (1988)

JELINSKY, PATRICK. Possible Detection of an Emission Feature near 584 Å in the Direction of G191-B2B. *James Green, Stuart Bowyer, & Patrick Jelinsky.* 353, 612, 71-E1 (1990)

The Extreme Ultraviolet Spectrum of G191-B2B and the Ionization of the Local Interstellar Medium. *James Green, Patrick Jelinsky, & Stuart Bowyer.* 359, 499, 142-C1 (1990)

JENKINS, E. B. Interstellar Absorption along the Line of Sight to σ Scorpii Using *Copernicus* Observations. *M. M. Allen, T. P. Snow, & E. B. Jenkins.* 355, 130, 88-E9 (1990)

Interstellar Absorption along the Line of Sight to σ Scorpii Using *Copernicus* Observations: Erratum. *M. M. Allen, T. P. Snow, & E. B. Jenkins.* 364, 335, 198-B12 (1990) (Orig. paper in 355, 130, 88-E9 (1990))

JENKINS, EDWARD B. Abundances of Interstellar Atoms from Ultraviolet Absorption Lines. *Edward B. Jenkins, Blair D. Savage, & Lyman Spitzer, Jr.* 301, 355, 17-F11 (1986)

Extent of Ionized Calcium in the Outer Parts of Galaxies. *Donald C. Morton, Donald G. York, & Edward B. Jenkins.* 302, 272, 31-A13 (1986)

The Analysis of Ensembles of Moderately Saturated Interstellar Lines. *Edward B. Jenkins.* 304, 739, 64-B6 (1986)

A Search List of Lines for Quasi-stellar Object Absorption Systems. *Donald C. Morton, Donald G. York, & Edward B. Jenkins.* 68, 449, 29-F1 (1988)

A Survey of Lyman-Limit Absorption in the Spectra of 59 High-Redshift QSOs. *Edward B. Jenkins, Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 69, 703, 12-B1 (1989)

Velocities and Rotational Excitation of Interstellar H_2 toward π Scorpii. *Edward B. Jenkins, Joanna F. Lees, Ewine F. van Dishoeck, & Eric M. Wilcots.* 343, 785, 129-A8 (1989)

Ultraviolet Observations of Interstellar Absorption Lines toward SN 1987A. *Blair D. Savage, Edward B. Jenkins, Charles L. Joseph, & Klaas S. de Boer.* 345, 393, 154-A12 (1989)

JENKNER, H. Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)

JENKNER, HELMUT. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

JENNER, DAVID C. Discovery of a New Short-Period, Eclipsing Cataclysmic Variable. *Ronald A. Downes, Mario Mateo, Paula Szkody, David C. Jenner, & Bruce Margon.* 301, 240, 16-E9 (1986)

JENNINGS, D. A. Laboratory Measurement of the Rotational Spectrum of the OH Radical with Tunable Far-Infrared Radiation. *J. M. Brown, L. R. Zink, D. A. Jennings, K. M. Evenson, A. Hinz, & I. G. Nolt.* 307, 410, 99-E6 (1986)

Frequency Measurement of the $J = 1 \leftarrow 0$ Rotational Transition of HD. *K. M. Evenson, D. A. Jennings, J. M. Brown, L. R. Zink, K. R. Leopold, M. D. Vanek, & I. G. Nolt.* 330, L135, 105-B5 (1988)

Laboratory Measurements for the Astrophysical Identification of MgH. *L. R. Zink, D. A. Jennings, K. M. Evenson, & K. R. Leopold.* 359, L65, 144-D1 (1990)

JENNINGS, D. E. Detection of 12 Micron Mg I and OH Lines in Stellar Spectra. *D. E. Jennings, D. Deming, G. R. Wiedemann, & J. J. Keady.* 310, L39, 138-C12 (1986)

JENNINGS, DONALD E. On the Apparent Velocity of Integrated Sunlight. I. 1983–1985. *Drake Deming, Fred Espenak, Donald E. Jennings, James W. Brault, & Jeremy Wagner.* 316, 771, 60-E4 (1987)

Solar Magnetic Field Studies Using the 12 Micron Emission Lines. I. Quiet-Sun Time Series and Sunspot Slices. *Drake Deming, Robert J. Boyle, Donald E. Jennings, & Gunter Wiedemann.* 333, 978, 151-B1 (1988)

Solar Magnetic Field Studies Using the 12 Micron Emission Lines. I. Quiet-Sun Time Series and Sunspot Slices: Erratum. *Drake Deming, Robert J. Boyle, Donald E. Jennings, & Gunter Wiedemann.* 338, 1193, 48-C12 (1989) (Orig. paper in 333, 978, 151-B1 (1988))

A Search for p-Mode Oscillations of Jupiter: Serendipitous Observations of Nonacoustic Thermal Wave Structure. *Drake Deming, Michael J. Mumma, Fred Espenak, Donald E. Jennings, Theodor Kostiuk, Gunter Wiedemann, Robert Loewenstein, & Joseph Piscitelli.* 343, 456, 123-F7 (1989)

Observations of the 12.3 Micron Mg I Emission Line during a Major Solar Flare. *Drake Deming, Tilak Hewagama, Donald E. Jennings, Vladimir Osherovich, & Gunter Wiedemann.* 364, L49, 205-E7 (1990)

JENNINGS, DONALD G. High-Resolution Infrared Molecular Hydrogen Images and Optical Images of Herbig-Haro Object 43. *Richard D. Schwartz, Peredur M. Williams, Martin Cohen, & Donald G. Jennings.* 334, L99, 169-E10 (1988)

JENNINGS, J. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

JENNINGS, MARK C. Intrinsic and Artificial Bias in the KONUS Cumulative Number Distribution. *Mark C. Jennings.* 333, 700, 147-G7 (1988)

OTS 1809+314 and the Gamma-Ray Burst GB 790325b. *Dieter Hartmann, Richard W. Pogge, Kevin Hurley, Frederick J. Vrba, & Mark C. Jennings.* 336, 889, 13-E6 (1989)

JENNINGS, R. E. Candidate Solar-Type Protostars in Nearby Molecular Cloud Cores. *C. A. Beichman, P. C. Myers, J. P. Emerson, S. Harris, R. Mathieu, P. J. Benson, & R. E. Jennings.* 307, 337, 98-F13 (1986)

JENSEN, EBERHARD. Redshifts of High Temperature Emission Lines in the Far-Ultraviolet Spectra of Late-Type Stars. II. New, Precise Measurements of Dwarfs and Giants. *Thomas R. Ayres, Eberhard Jensen, & Oddbjørn Engvold.* 66, 51, 2-A5 (1988)

JENSEN, F. *EXOSAT* Observations of the Cassiopeia A Supernova Remnant. *F. Jensen, A. Smith, J. A. M. Bleeker, P. A. J. de Korte, A. Peacock, & N. E. White.* 331, 949, 119-D4 (1988)

JENSEN, JOSEPH. The Continuity of Cluster Formation in the Large Magellanic Cloud. *Joseph Jensen, Jeremy Mould, & Neill Reid.* 67, 77, 11-C1 (1988)

The Age of the LMC Globular Cluster NGC 1783. *Jeremy Mould, Jerome Kristian, James Nemec, Marc Aaronson, & Joseph Jensen.* 339, 84, 51-A8 (1989)

JENSEN, K. A. *EXOSAT* Observations of V471 Tauri: A 9.25 Minute White Dwarf Pulsation and Orbital Phase Dependent X-Ray Dips. *K. A. Jensen, J. H. Swank, R. Petre, E. F. Guinan, E. M. Sion, & H. L. Shipman.* 309, L27, 125-E5 (1986)

JENSEN, LARS GERHARD. *N*-Point Correlations for Biased Galaxy Formation. *Lars Gerhard Jensen & Alexander S. Szalay.* 305, L5, 74-A8 (1986)

JENSEN, TORKIL H. Singularities of Simple, Force-free, Line-tied Magnetohydrodynamic Equilibria. *Torkil H. Jensen.* 343, 507, 124-C11 (1989)

JERIUS, D. Influence of the Equilibration Process in Supernova Remnant Shocks on Their X-Ray and Coronal Iron Surface Brightnesses. *D. Jerius & R. G. Teske.* 66, 99, 2-G1 (1988)

JERNIGAN, J. GARRETT. A Tree Code with Logarithmic Reduction of Force Terms, Hierarchical Regularization of All Variables, and Explicit Accuracy Controls. *J. Garrett Jernigan & David H. Porter.* 71, 871, 48-C9 (1989)

JEWELL, P. R. Filled-Aperture Maps of Selected H II Regions at 3.5 Millimeters. *M. A. Gordon, P. R. Jewell, M. A. Kaftan-Kassim, & C. J. Salter.* 308, 288, 111-B12 (1986)

High-Excitation SiO Masers in Evolved Stars. *P. R. Jewell, Dale F. Dickinson, L. E. Snyder, & D. P. Clemens.* 323, 749, 163-A1 (1987)

Maps of Dust Clouds at 1.3 Millimeters Associated with Bright H II Regions. *M. A. Gordon & P. R. Jewell.* 323, 766, 163-B5 (1987)

HCO Emission from H II–Molecular Cloud Interface Regions. *M. S. Schenewerk, L. E. Snyder, J. M. Hollis, P. R. Jewell, & L. M. Ziurys.* 328, 785, 71-F1 (1988)

Millimeter- and Submillimeter-Wave Surveys of Orion A Emission Lines in the Ranges 200.7–202.3, 203.7–205.3, and 330–360 GHz. *P. R. Jewell, J. M. Hollis, F. J. Lovas, & L. E. Snyder.* 70, 833, 31-D1 (1989)

A Search for Methylene in the Orion Nebula. *J. M. Hollis, P. R. Jewell, & F. J. Lovas.* 346, 794, 177-C1 (1989)

223 GHz VLBI Observations of 3C 273. *S. Padin, D. P. Woody, M. W. Hodges, A. E. E. Rogers, D. T. Emerson, P. R. Jewell, J. Lamb, A. Perfetto, & M. C. H. Wright.* 360, L11, 149-C2 (1990)

Comparisons of SiO Maser and Long-Period Variable Positions in the R Aquarii and Omicron Ceti Binary Systems. *J. M. Hollis, M. C. H. Wright, W. J. Welch, P. R. Jewell, H. E. Crull, Jr., M. Kafatos, & A. G. Michalitsianos.* 361, 663, 166-C12 (1990)

JEWISON, M. S. The Magnetic Field and Abundance Distribution Geometry of the Peculiar B Star HD 215441. *J. D. Landstreet, P. K. Barker, D. A. Bohlender, & M. S. Jewison.* 344, 876, 145-B2 (1989)

JEWITT, D. C. Surface Brightness Profiles of 10 Comets. *D. C. Jewitt & Karen J. Meech.* 317, 992, 77-A7 (1987)

JEWITT, DAVID. Cometary Grain Scattering versus Wavelength, or, "What Color Is Comet Dust?." *David Jewitt & Karen J. Meech.* 310, 937, 144-C6 (1986)

The Persistent Coma of Comet P/Schwassmann-Wachmann 1. *David Jewitt.* 351, 277, 41-D10 (1990)

The Submillimeter Radio Continuum of Comet P/Brorsen-Metcalf. *David Jewitt & Jane Luu.* 365, 738, 217-D10 (1990)

JEWITT, DAVID C. Halos around Planetary Nebulae. *David C. Jewitt, G. E. Danielson, & P. N. Kupferman.* 302, 727, 38-E8 (1986)

Optical Properties of Cometary Nuclei and a Preliminary Comparison with Asteroids. *David C. Jewitt & Karen J. Meech.* 328, 974, 74-A1 (1988)

JIANG, L. R. A Model for the Formation of the Local Group. *P. J. E. Peebles, A. L. Melott, M. R. Holmes, & L. R. Jiang.* 345, 108, 150-D1 (1989)

JIMENEZ, J. Surface Phenomena and the Evolution of Radiating Fluid Spheres in General Relativity. *L. Herrera, J. Jimenez, M. Esculpi, & J. Ibáñez.* 345, 918, 162-A3 (1989)

JIMÉNEZ-FUENSALIDA, JESÚS. Ultraviolet and Infrared Monitoring of FG Sagittae during 1982–1989: Evolutionary Status. *Benjamin Montesinos, Angelo Cassatella, Rosario González-Riestra, Telmo Fernández-Castro, Carlos Eiroa, & Jesús Jiménez-Fuensalida.* 363, 245, 185-B8 (1990)

JIN, LIPING. Nucleosynthesis inside Thick Accretion Disks around a Black Hole. I. Thermodynamic Conditions and Preliminary Analysis. *Sandip K. Chakrabarti, Liping Jin, & W. David Arnett.* 313, 674, 24-B10 (1987)

Nucleosynthesis inside Thick Accretion Disks around Black Holes. II. Results for Massive Black Holes. *Liping Jin, W. David Arnett, & Sandip K. Chakrabarti.* 336, 572, 9-F1 (1989)

Primordial Helium Production by Pregalactic Accreting Black Holes. *Liping Jin.* 337, 603, 26-E6 (1989)

Can Black Hole Accretion Produce ^{7}Li? *Liping Jin.* 356, 501, 106-E1 (1990)

Dynamo Action by Internal Waves in Accretion Disks. *Ethan T. Vishniac, Liping Jin, & Patrick Diamond.* 365, 648, 216-C8 (1990)

JING, YI-PENG. The Three-Point Correlation Functions of Abell Clusters. *Yi-peng Jing & Jia-lu Zhang.* 342, 639, 110-E1 (1989)

JOG, CHANDA J. The Velocity Dispersion of the Giant Molecular Clouds: A Viscous Origin. *Chanda J. Jog & Jeremiah P. Ostriker.* 328, 404, 67-D10 (1988)

The Velocity Dispersion of the Giant Molecular Clouds: A Viscous Origin: Erratum. *Chanda J. Jog & Jeremiah P. Ostriker.* 337, 1035, 31-E8 (1989) (Orig. paper in 328, 404, 67-D10 (1988))

Collisional Removal of H I from the Inner Disks of Virgo Cluster Galaxies. *Monica Valluri & Chanda J. Jog.* 357, 367, 117-B7 (1990)

JOHANSSON, L. E. B. The CO Envelope of IRC +10216. *P. J. Huggins, H. Olofsson, & L. E. B. Johansson.* 332, 1009, 135-E2 (1988)

JOHANSSON, LARS E. B. High-Resolution Images of the Orion Molecular Ridge in the CS $J = 2$–1 Transition. *Lee G. Mundy, T. J. Cornwell, Colin R. Masson, Nicholas Z. Scoville, Lars B. Bååth, & Lars E. B. Johansson.* 325, 382, 23-D3 (1988)

JOHANSSON, S. Ultraviolet Doubly Excited Fe II Lines in the Laboratory and in the A-Type Star 21 Pegasi. *J. Adam, B. Baschek, S. Johansson, A. E. Nilsson, & T. Brage.* 312, 337, 4-E6 (1987)

JOHANSSON, SVENERIC. Indirect *IUE* Observations of O VI from Photoexcited Fluorescence Lines of Fe II, Present in the Spectrum of RR Telescopii. *Sveneric Johansson.* 327, L85, 61-E3 (1988)

The Ultraviolet Spectrum of Noncoronal Late-Type Stars: The Gamma Crucis (M3.4 III) Reference Spectrum. *Kenneth G. Carpenter, Joseph E. Pesce, Robert E. Stencel, Alexander Brown, Sveneric Johansson, & Robert F. Wing.* 68, 345, 28-B7 (1988)

The Lowest $3d^6 4s4f$ Subconfiguration of Fe I Determined from Laboratory and Solar Fourier Transform Spectra in the Infrared. *Sveneric Johansson & R. C. M. Learner.* 354, 755, 85-F1 (1990)

JOHNSON, B. CAROL. Transition Probability of the Al II 2669 Å Intersystem Line. *B. Carol Johnson, Peter L. Smith, & W. H. Parkinson.* 308, 1013, 120-B7 (1986)

JOHNSON, DAVID G. A 1Radiation at $\lambda = 1.2$ Centimeters. *David G. Johnson & David T. Wilkinson.* 313, L1, 21-A4 (1987)

JOHNSON, H. M. Optical Survey of *IRAS* Fields in the Draco Cloud Region. *H. M. Johnson & A. R. Klemola.* 63, 701, 11-C8 (1987)

JOHNSON, H. R. Red Giant Model Atmospheres. IV. Colors of K and M Giant Models. *Thomas Y. Steiman-Cameron & H. R. Johnson.* 301, 868, 25-B9 (1986)

Mass Loss from Red Giant Stars. II. Carbon Stars. *P. G. Wannier, R. Sahai, B-G Andersson, & H. R. Johnson.* 358, 251, 125-C1 (1990)

JOHNSON, HOLLIS R. Model Atmospheres for R Stars. *Hollis R. Johnson & Sandra B. Yorka.* 311, 299, 149-D4 (1986)

Variability of Ultraviolet Emission in the Carbon Star TX Piscium. *Hollis R. Johnson, John H. Baumert, François Querci, & Monique Querci.* 311, 960, 158-D1 (1986)

Ultraviolet Spectra and Chromospheres of Cool Carbon Stars. *Hollis R. Johnson & Donald G. Luttermoser.* 314, 329, 31-F9 (1987)

On the Violet Flux of N-Type Carbon Stars. *Danny R. Faulkner, R. Kent Honeycutt, & Hollis R. Johnson.* 324, 490, 6-E6 (1988)

The Outer Atmospheres of the Coolest M Giants: Ultraviolet Spectra of ρ Persei, 2 Centauri, g Herculis, θ Apodis, and R Lyrae. *Joel A. Eaton & Hollis R. Johnson.* 325, 355, 23-B4 (1988)

A White Dwarf Companion to the Main-Sequence Star 4 o^1 Orionis and the Binary Hypothesis for the Origin of Peculiar Red Giants. *Thomas B. Ake & Hollis R. Johnson.* 327, 214, 49-C8 (1988)

The Violet and Ultraviolet Opacity Problem for Carbon Stars. *Hollis R. Johnson, Donald G. Luttermoser, & Danny R. Faulkner.* 332, 421, 127-F8 (1988)

On the Onset of Mass Loss in Late-Type Stars. *Moshe Elitzur, Jeffery A. Brown, & Hollis R. Johnson.* 341, L95, 100-C1 (1989)

Chromospheric Structure of Cool Carbon Stars. *Donald G. Luttermoser, Hollis R. Johnson, Eugene H. Avrett, & Rudolf Loeser.* 345, 543, 155-G3 (1989)

An Opacity-sampled Treatment of Water Vapor. *David R. Alexander, Gordon C. Augason, & Hollis R. Johnson.* 345, 1014, 163-B8 (1989)

Model Atmospheres for K and M Giants. *Jeffery A. Brown, Hollis R. Johnson, David R. Alexander, Lori C. Cutright, & Christopher M. Sharp.* 71, 623, 44-E5 (1989)

Chromospheric Variability of M Giant Semiregular Variables. *Joel A. Eaton, Hollis R. Johnson, & Robert R. Cadmus, Jr.* 364, 259, 197-C4 (1990)

JOHNSON, HUGH M. Far-Infrared Characteristics of K Dwarfs with Hα Emission. *Hugh M. Johnson.* 300, 401, 5-D9 (1986)

An Unbiased X-Ray Sampling of Stars within 25 Parsecs of the Sun. *Hugh M. Johnson.* 303, 470, 46-C2 (1986)

The Draco Cloud as a Matrix of Potential Protostars. *Hugh M. Johnson.* 309, 321, 123-D7 (1986)

The Orbit and Properties of the HD 149162 System. *Hugh M. Johnson & M. Mayor.* 310, 354, 135-G9 (1986)

Low-Energy X-Ray Observations of the Wolf 630 System. *Hugh M. Johnson.* 316, 458, 55-A12 (1987)

JOHNSON, I. Optical Images of Quasars and Radio Galaxies. *J. B. Hutchings, I. Johnson, & R. Pyke.* 66, 361, 8-B1 (1988)

JOHNSON, JONI J. Photometry of Variable AFGL Sources. *Terry Jay Jones, C. O. Bryja, Robert D. Gehrz, Thomas E. Harrison, Joni J. Johnson, Dimitri I. Klebe, & Geoffrey F. Lawrence.* 74, 785, 41-E11 (1990)

JOHNSON, PAUL. Near-Infrared Images of NGC 1068: Bar-driven Star Formation and the Circumnuclear Composition. *Harley A. Thronson, Jr., Mark Hereld, Steven Majewski, Matthew Greenhouse, Paul Johnson, Earl Spillar, C. E. Woodward, D. A. Harper, & Bernard J. Rauscher.* 343, 158, 120-B3 (1989)

JOHNSON, SCOTT B. DDO, Cousins *R*–*I*, and Photomultiplier Scanner Data for an Analysis of Very Strong Lined K Giants. *Scott B. Johnson, Michael D. Joner, & Benjamin J. Taylor.* 63, 983, 16-B1 (1987)

The "Alternative X" Question: What Causes the Strong Molecular Bands and Damping Lines in the Very Strong Lined (Super–Metal-rich) Stars? *Benjamin J. Taylor & Scott B. Johnson.* 322, 930, 150-B2 (1987)

JOHNSTON, HELEN M. The Black Hole A0620−00 and Its Accretion Disk. *Helen M. Johnston, Shrinivas R. Kulkarni, & J. B. Oke.* 345, 492, 155-C1 (1989)

JOHNSTON, K. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

JOHNSTON, K. J. VLA Maps of Formaldehyde Absorption toward NGC 2024. *Richard M. Crutcher, C. Henkel, T. L. Wilson, K. J. Johnston, & J. H. Bieging.* 307, 302, 98-C12 (1986)

The 1983 September Radio Outburst of Cygnus X-3: Relativistic Expansion at 0.35*c*. *R. E. Spencer, R. W. Swinney, K. J. Johnston, & R. M. Hjellming.* 309, 694, 128-G7 (1986)

Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

1928+738: A Superluminal Source with Large-Scale Structure. *K. J. Johnston, R. S. Simon, A. Eckart, P. Biermann, C. Schalinski, A. Witzel, & R. G. Strom.* 313, L85, 27-D11 (1987)

Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)

H_2O Masers in Circumstellar Envelopes. *Adair P. Lane, K. J. Johnston, P. F. Bowers, J. H. Spencer, & P. J. Diamond.* 323, 756, 163-A8 (1987)

Superluminal Motion toward a Stationary Knot in the Radio Core of the Quasar 3C 395. *R. S. Simon, J. Hall, K. J. Johnston, J. H. Spencer, J. A. Waak, & R. L. Mutel.* 326, L5, 38-A8 (1988)

Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)

Radio Emission from Conical Jets Associated with X-Ray Binaries. *R. M. Hjellming & K. J. Johnston.* 328, 600, 69-F4 (1988)

The Size of the $z = 0.437$ H I Absorption Region toward the QSO 3C 196. *R. L. Brown, J. J. Broderick, K. J. Johnston, J. M. Benson, K. J. Mitchell, & E. B. Waltman.* 329, 138, 76-E3 (1988)

Envelope Structure of the Mira Variable U Orionis. *P. F. Bowers & K. J. Johnston.* 330, 339, 94-A2 (1988)

High-Resolution VLA Observations of the W3(OH) Methanol Masers. *K. M. Menten, K. J. Johnston, E. J. Wadiak, C. M. Walmsley, & T. L. Wilson.* 331, L41, 114-D5 (1988)

VLBI Observations of 12 GHz Methanol Masers. *K. M. Menten, M. J. Reid, J. M. Moran, T. L. Wilson, K. J. Johnston, & W. Batrla.* 333, L83, 152-F1 (1988)

Envelope Structures and Optical/Radio Positions of Cool Stars. *P. F. Bowers, K. J. Johnston, & C. de Vegt.* 340, 479, 73-C1 (1989)

H_2CO Maps of High-Density Molecular Fragments 3′ North of Orion-KL. *T. L. Wilson & K. J. Johnston.* 340, 894, 79-E1 (1989)

Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

The Spatial Distribution of the OH Masers in Orion-KL. *K. J. Johnston, V. Migenes, & R. Norris.* 341, 847, 95-F2 (1989)

VLA Observations of the $^{15}NH_3$ Maser Associated with NGC 7538 IRS 1. *K. J. Johnston, S. R. Stolovy, T. L. Wilson, C. Henkel, & R. Mauersberger.* 343, L41, 132-B5 (1989)

The Distribution and Kinematics of Ammonia in the Orion-KL Nebula: High-Sensitivity VLA Maps of the $NH_3(3,2)$ Line. *V. Migenes, K. J. Johnston, T. A. Pauls, & T. L. Wilson.* 347, 294, 185-F8 (1989)

Sensitive VLA Observations of OH 127.8−0.0 and OH 26.5+0.6. *P. F. Bowers & K. J. Johnston.* 354, 676, 84-F5 (1990)

Apparent Orbit of the Spectroscopic Binary β Arietis with the Mark III Stellar Interferometer. *X. P. Pan, M. Shao, M. M. Colavita, D. Mozurkewich, R. S. Simon, & K. J. Johnston.* 356, 641, 108-B11 (1990)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

JOKIPII, J. R. Ultra–High Energy Cosmic Rays in a Galactic Wind and Its Termination Shock. *J. R. Jokipii & G. Morfill.* 312, 170, 2-G5 (1987)

Rate of Energy Gain and Maximum Energy in Diffusive Shock Acceleration. *J. R. Jokipii.* 313, 842, 26-A2 (1987)

Cosmic-Ray–Modified Stellar Winds. III. A Numerical Iterative Approach. *C. M. Ko, J. R. Jokipii, & G. M. Webb.* 326, 761, 42-A3 (1988)

Cosmic-Ray Viscosity. *J. A. Earl, J. R. Jokipii, & G. Morfill.* 331, L91, 121-E7 (1988)

Cosmic Rays at Fluid Discontinuities. *J. R. Jokipii, J. Kóta, & G. Morfill.* 345, L67, 157 F9 (1989)

Particle Acceleration in Step Function Shear Flows: A Microscopic Analysis. *J. R. Jokipii & G. E. Morfill.* 356, 255, 102-C3 (1990)

JOKISCH, H. Searches for Narrow-Angle Anisotropies in the Primary Energy Range 0.1–10 TeV: Erratum. *O. C. Allkofer, W. D. Dau, H. Jokisch, G. Klemke, R. C. Uhr, G. Bella, & Y. Oren.* 305, 954, 79-D10 (1986) (Orig. paper in 291, 468, 40-A2 (1985))

JONCAS, GILLES. Hα Velocity Widths in Giant Extragalactic H II Regions. *Jean-René Roy, Robin Arsenault, & Gilles Joncas.* 300, 624, 10-A2 (1986)

The Hα Velocity Field of the Omega Nebula (M17). *Gilles Joncas & Jean-René Roy.* 307, 649, 104-A12 (1986)

Kinematics of the H II Region Sharpless 142. III. Molecular Line Observations and Analysis of the *IRAS* Data. *Gilles Joncas, C. Kömpe, & J. de La Noë.* 332, 1030, 135-G1 (1988)

JONER, MICHAEL D. DDO, Cousins *R–I*, and Photomultiplier Scanner Data for an Analysis of Very Strong Lined K Giants. *Scott B. Johnson, Michael D. Joner, & Benjamin J. Taylor.* 63, 983, 16-B1 (1987)

JONES, A. P. Simple Linear Polycyclic Aromatic Hydrocarbon Molecules and the Infrared Emission Features: Mothballs in the Orion Ridge? *W. W. Duley & A. P. Jones.* 351, L49, 49-E5 (1990)

JONES, ANDREW R. Global Acoustic Oscillations on α Bootis. *Juan A. Belmonte, Andrew R. Jones, Pere L. Pallé, & Teodoro Roca Cortés.* 358, 595, 131-A1 (1990)

JONES, B. F. Observations of Jets from Low-Luminosity Stars: DG Tauri B. *B. F. Jones & Martin Cohen.* 311, L23, 152-C4 (1986)

Observations of Jets from Low-Luminosity Stars. II. SVS 12, HH 30, Near HL Tauri, and HH 34. *Martin Cohen & B. F. Jones.* 321, 846, 133-F13 (1987)

Optical Spectroscopy of *IRAS* Sources with Infrared Emission Bands: IRAS 21282+5050 and the Diffuse Interstellar Bands. *Martin Cohen & B. F. Jones.* 321, L151, 137-E1 (1987)

Optical Spectroscopy of *IRAS* Sources with Infrared Emission Bands. II. IRAS 04324+5106, 06114+1745, 20319+3958, and 22539+5758. *Martin Cohen, B. F. Jones, & H. J. Walker.* 341, 908, 96-D8 (1989)

JONES, BARBARA. Extended Nonnuclear Infrared Emission from Seyfert Galaxies. *J. M. Rodríguez-Espinosa, Richard J. Rudy, & Barbara Jones.* 309, 76, 120-G7 (1986)

Star Formation in Seyfert Galaxies. *J. M. Rodríguez-Espinosa, Richard J. Rudy, & Barbara Jones.* 312, 555, 9-A1 (1987)

JONES, BERNARD J. T. The Tidal Velocity Field in the Local Supercluster. *Per B. Lilje, Amos Yahil, & Bernard J. T. Jones.* 307, 91, 96-A3 (1986)

Multifractal Description of the Large-Scale Structure of the Universe. *Bernard J. T. Jones, Vicent J. Martínez, Enn Saar, & Jaan Einasto.* 332, L1, 129-B5 (1988)

Clustering Paradigms and Multifractal Measures. *Vicent J. Martínez, Bernard J. T. Jones, Rosa Domínguez-Tenreiro, & Rien van de Weygaert.* 357, 50, 111-F3 (1990)

JONES, BURTON F. Wide Binaries in the Direction of Andromeda. *John N. Bahcall, Burton F. Jones, & Kavan U. Ratnatunga.* 60, 939, 14-G7 (1986)

Pre–Main-Sequence Stars in the Young Cluster IC 2391. *John Stauffer, Lee W. Hartmann, Burton F. Jones, & Brian R. McNamara.* 342, 285, 104-D3 (1989)

Rotational Velocities of Newly Discovered, Low-Mass Members of the Alpha Persei Cluster. *John R. Stauffer, Lee W. Hartmann, & Burton F. Jones.* 346, 160, 168-B1 (1989)

Pre–Main-Sequence Stars in the Young Cluster IC 2391: Erratum. *John Stauffer, Lee W. Hartmann, Burton F. Jones, & Brian R. McNamara.* 350, 480, 30-G5 (1990) (Orig. paper in 342, 285, 104-D3 (1989))

JONES, C. Hot Coronae around Early-Type Galaxies: Erratum. *W. Forman, C. Jones, & W. Tucker.* 300, 836, 12-C11 (1986) (Orig. paper in 293, 102, 59-A10 (1985))

Einstein Observations of the Hydra A Cluster and the Efficiency of Galaxy Formation in Groups and Clusters. *L. P. David, K. A. Arnaud, W. Forman, & C. Jones.* 356, 32, 99-D7 (1990)

The Evolution of the Interstellar Medium in Elliptical Galaxies. I. The Early Wind Phase. *L. P. David, W. Forman, & C. Jones.* 359, 29, 134-D7 (1990)

JONES, CHRISTINE. The Pattern of Gas Deficiency in Cluster Spirals: The Correlation of H I and X-Ray Properties. *Christopher Magri, Martha P. Haynes, William Forman, Christine Jones, & Riccardo Giovanelli.* 333, 136, 139-D7 (1988)

JONES, DAYTON L. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

Evidence for Intrinsically Asymmetrical Radio Structure in the Nucleus of NGC 6251. *Dayton L. Jones.* 309, L5, 125-C12 (1986)

JONES, ERIC M. Radio Emission from Young Supernova Remnants: Effects of an Inhomogeneous Circumstellar Medium. *John R. Dickel, Jean A. Eilek, Eric M. Jones, & Stephen P. Reynolds.* 70, 497, 25-F5 (1989)

JONES, FRANK C. First-Order Fermi Particle Acceleration by Relativistic Shocks. *Donald C. Ellison, Frank C. Jones, & Stephen P. Reynolds.* 360, 702, 154-G9 (1990)

The Generalized Diffusion-Convection Equation. *Frank C. Jones.* 361, 162, 159-A9 (1990)

JONES, H. P. Magnetic Shear. III. Hale Region 17255. *R. Grant Athay, H. P. Jones, & H. Zirin.* 303, 877, 52-B5 (1986)

Magnetic Shear. IV. Hale Regions 16740, 16815, and 16850. *R. Grant Athay, J. A. Klimchuk, H. P. Jones, & H. Zirin.* 303, 884, 52-C6 (1986)

JONES, J. High Spatial Resolution Imaging of Some of the Most Distant 3CR Galaxies. *O. Le Fèvre, F. Hammer, & J. Jones.* 331, L73, 121-C3 (1988)

JONES, MICHAEL D. Cosmic-Ray Energy Spectra between 10 and Several Hundred GeV per Atomic Mass Unit for Elements from $_{18}$Ar to $_{28}$Ni: Results from *HEAO 3*. *W. R. Binns, T. L. Garrard, M. H. Israel, Michael D. Jones, M. P. Kamionkowski, J. Klarmann, E. C. Stone, & C. J. Waddington.* 324, 1106, 15-F3 (1988)

The Systematic Radial Downflow in the Transition Region of the Quiet Sun from Limb-to-Limb Observations of the C IV Resonance Lines. *Gary J. Rottman, Donald M. Hassler, Michael D. Jones, & Frank Q. Orrall.* 358, 693, 132-B10 (1990)

JONES, PHILIP W. On the Possibility of Detecting Weak Magnetic Fields in Variable White Dwarfs. *Philip W. Jones, W. Dean Pesnell, Carl J. Hansen, & Steven D. Kawaler.* 336, 403, 6-B12 (1989)

JONES, RODNEY V. The Baade-Wesselink Method and the Distances to RR Lyrae Stars. II. The Field Star X Arietis. *Rodney V. Jones, Bruce W. Carney, David W. Latham, & Robert L. Kurucz.* 312, 254, 3-F5 (1987)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. III. The Field Star SW Draconis. *Rodney V. Jones, Bruce W. Carney, David W. Latham, & Robert L. Kurucz.* 314, 605, 36-B10 (1987)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. IV. The Flux Distribution of RR Lyrae Variables. *Rodney V. Jones.* 326, 305, 35-E2 (1988)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. V. The Field Star DH Pegasi. *Rodney V. Jones, Bruce W. Carney, & David W. Latham.* 326, 312, 35-E9 (1988)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VI. The Field Stars RS Boötis, TW Herculis, VY Serpentis, and UU Virginis, and the Absolute Magnitudes of RR Lyrae Stars. *Rodney V. Jones, Bruce W. Carney, & David W. Latham.* 332, 206, 125-D1 (1988)

JONES, T. W. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

A Nonthermal Model for the XUV, Soft X-Ray Emission of AGN and QSOs. *T. W. Jones & W. A. Stein.* 320, L1, 114-A4 (1987)

Polarization as a Probe of magnetic Fields and Plasma Properties of Compact Radio Sources: Simulation of Relativistic Jets. *T. W. Jones.* 332, 678, 131-F1 (1988)

Secondary Electron Production and the Millimeter to Gamma-Ray Continuum of Emission-Line Quasi-stellar Objects. *T. W. Jones & W. A. Stein.* 349, 443, 20-F8 (1990)

Diffusive Cosmic-Ray Acceleration: Two-Fluid Models with *In Situ* Injection. *Hyesung Kang & T. W. Jones.* 353, 149, 64-A7 (1990)

Time-dependent Evolution of Cosmic-Ray–mediated Shocks in the Two-Fluid Model. *T. W. Jones & Hyesung Kang.* 363, 499, 190-D1 (1990)

JONES, TERRY J. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

An Active Star Formation Site in RCW 108. *Steven Straw, A. R. Hyland, Terry J. Jones, Paul M. Harvey, Bruce A. Wilking, & Marshall Joy.* 314, 283, 31-B12 (1987)

JONES, TERRY JAY. Compact Radio Sources in the Galactic Plane. *Terry Jay Jones, Robert Garwood, & John M. Dickey.* 328, 559, 69-C5 (1988)

Infrared Polarimetry of Galaxies. I. Infrared Luminous Galaxies. *Terry Jay Jones & Dimitri Klebe.* 341, 707, 94-B2 (1989)

Infrared Polarimetry and the Interstellar Magnetic Field. *Terry Jay Jones.* 346, 728, 176-D4 (1989)

A Pulsation Phase-dependent Dust Shell Model of OH 26.5+0.6. *Kyung-Won Suh, Terry Jay Jones, & G. H. Bowen.* 358, 588, 130-G3 (1990)

Photometry of Variable AFGL Sources. *Terry Jay Jones, C. O. Bryja, Robert D. Gehrz, Thomas E. Harrison, Joni J. Johnson, Dimitri I. Klebe, & Geoffrey F. Lawrence.* 74, 785, 41-E11 (1990)

JONES, W. V. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

JORDAN, C. High-Dispersion Observations of Alpha Bootis (K1 III) with the *International Ultraviolet Explorer*. *T. R. Ayres, P. Judge, C. Jordan, A. Brown, & J. L. Linsky.* 311, 947, 158-C1 (1986)

JORDAN, CAROLE. Chromospheres of Two Red Giants in NGC 6752. *A. K. Dupree, G. M. Harper, L. Hartmann, Carole Jordan, A. W. Rodgers, & Graeme H. Smith.* 361, L9, 161-D4 (1990)

JORDAN, J. F., JR. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

JORDANA, J. J. RDZ. Three-dimensional Morphological Segregation in Rich Clusters of Galaxies. *E. Salvador-Solé, M. Sanromà, & J. J. Rdz. Jordana.* 337, 636, 27-A1 (1989)

JØRGENSEN, UFFE G. Complete Active Space Self-consistent Field Calculations of the Vibrational Band Strengths for C_3. *Uffe G. Jørgensen, Jan Almlöf, & Per E. M. Siegbahn.* 343, 554, 124-G11 (1989)

The Infrared Spectrum of TX Piscium. *Uffe G. Jørgensen.* 344, 901, 145-C13 (1989)

JOSAFATSSON, KARL. CCD Observations of Diffuse Interstellar Bands in Reflection Nebulae. *Karl Josafatsson & Theodore P. Snow.* 319, 436, 98-A1 (1987)

JOSEPH, CHARLES L. Observations of Neutral Atoms in the Rho Ophiuchi Cloud. *Theodore P. Snow, Charles L. Joseph, & David M. Meyer.* 303, 433, 45-G5 (1986)

Interstellar Abundances in Dense, Moderately Reddened Lines of Sight. I. Observational Evidence for Density-dependent Depletion. *Charles L. Joseph, Theodore P. Snow, Jr., C. Gregory Seab, & Richard M. Crutcher.* 309, 771, 129-F6 (1986)

High-Resolution Ultraviolet Observations of Interstellar Lines toward ζ Persei Observed with the Balloon-borne Ultraviolet Spectrometer. *Theodore P. Snow, H. J. G. L. M. Lamers, & Charles L. Joseph.* 321, 952, 135-A1 (1987)

Are Relative Depletions Altered inside Diffuse Clouds? *Charles L. Joseph.* 335, 157, 172-B3 (1988)

A New Search for Interstellar C_3. *Theodore P. Snow, C. Gregory Seab, & Charles L. Joseph.* 335, 185, 172-E1 (1988)

Predicting Peculiar Interstellar Extinction from Gaseous Abundances. *Charles L. Joseph, Theodore P. Snow, Jr., & C. Gregory Seab.* 340, 314, 71-A1 (1989)

Ultraviolet Observations of Interstellar Absorption Lines toward SN 1987A. *Blair D. Savage, Edward B. Jenkins, Charles L. Joseph, & Klaas S. de Boer.* 345, 393, 154-A12 (1989)

Predicting Peculiar Interstellar Extinction from Gaseous Abundances: Erratum. *Charles L. Joseph, Theodore P. Snow, Jr., & C. Gregory Seab.* 347, 561, 188-G12 (1989) (Orig. paper in 340, 314, 71-A1 (1989))

JOSEPH, ROBERT D. Infrared Emissions of H_3^+ in the Atmosphere of Jupiter in the 2.1 and 4.0 Micron Region. *Steven Miller, Robert D. Joseph, & Jonathan Tennyson.* 360, L55, 156-E1 (1990)

JOSS, P. A. The Evolution of Very Low Mass Stars. *L. A. Nelson, S. A. Rappaport, & P. A. Joss.* 311, 226, 148-D13 (1986)

JOSS, P. C. The Evolution of Ultrashort Period Binary Systems. *L. A. Nelson, S. A. Rappaport, & P. C. Joss.* 304, 231, 56-D8 (1986)

Optical Reprocessing of Gamma-Ray Bursts. *F. Melia, S. Rappaport, & P. C. Joss.* 305, L51, 80-C4 (1986)

The Core Mass–Radius Relation for Giants: A New Test of Stellar Evolution Theory. *P. C. Joss, S. Rappaport, & W. Lewis.* 319, 180, 95-A5 (1987)

The Evolutionary Status of 4U 1820−30. *S. Rappaport, L. A. Nelson, C. P. Ma, & P. C. Joss.* 322, 842, 149-A12 (1987)

JOSS, PAUL C. Quasi-static Winds from Neutron Stars. *Paul C. Joss & Fulvio Melia.* 312, 700, 10-E7 (1987)

JOSTIES, F. J. Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)

JOY, M. Far-Infrared Structure in the Nuclear Region of M51. *D. F. Lester, P. M. Harvey, & M. Joy.* 302, 280, 31-B7 (1986)

The Spatial Structure of IRC +10216 and NGC 7027 in the Far-Infrared. *D. F. Lester, P. M. Harvey, & M. Joy.* 304, 623, 62-G9 (1986)

Far-Infrared Image Restoration Analysis of the Protostellar Cluster in S140. *D. F. Lester, P. M. Harvey, M. Joy, & H. B. Ellis, Jr.* 309, 80, 120-G11 (1986)

Far-Infrared Continuum Emission from the Nucleus, Starburst, and Extended Spiral Arms of NGC 1068. *D. F. Lester, M. Joy, P. M. Harvey, H. B. Ellis, Jr., & P. S. Parmar.* 321, 755, 132-G1 (1987)

Small Grains in M82: A Dusty Halo Surrounding the Starburst. *C. M. Telesco, R. Decher, & M. Joy.* 343, L13, 125-C5 (1989)

High Spatial Resolution Far-Infrared Scans of W3(OH). *M. F. Campbell, D. F. Lester, P. M. Harvey, & M. Joy.* 345, 298, 152-G3 (1989)

A Near-Infrared Spectroscopic Study of the Starburst Core of M82. *D. F. Lester, J. S. Carr, M. Joy, & N. Gaffney.* 352, 544, 57-G3 (1990)

Observations of G29–38 at 10 Microns. *C. M. Telesco, M. Joy, & C. Sisk.* 358, L17, 127-C1 (1990)

High Spatial Resolution Mapping of the Cepheus A Region at 20, 50, and 100 Microns. *H. B. Ellis, Jr., D. F. Lester, P. M. Harvey, M. Joy, C. M. Telesco, R. Decher, & M. W. Werner.* 365, 287, 210-A6 (1990)

JOY, MARSHALL. High Angular Resolution Infrared Mapping of the Compact H II Regions W51 and DR 21/W75. *Paul M. Harvey, Marshall Joy, Daniel F. Lester, & Bruce A. Wilking.* 300, 737, 11-C1 (1986)

Infrared Studies of the Herbig-Haro Object 1–2 Region. *Paul M. Harvey, Marshall Joy, Daniel F. Lester, & Bruce A. Wilking.* 301, 346, 17-F2 (1986)

The Far-Infrared and Optical Structure of Arp 220. *Marshall Joy, Daniel F. Lester, Paul M. Harvey, & Marian Frueh.* 307, 110, 96-B14 (1986)
An Active Star Formation Site in RCW 108. *Steven Straw, A. R. Hyland, Terry J. Jones, Paul M. Harvey, Bruce A. Wilking, & Marshall Joy.* 314, 283, 31-B12 (1987)
A Near-Infrared Study of the Luminous Merging Galaxies NGC 2623 and Arp 148. *Marshall Joy & Paul M. Harvey.* 315, 480, 46-A4 (1987)
Far-Infrared Detection of a Circumstellar Dust Torus around Sharpless 106. *Paul M. Harvey, Daniel F. Lester, & Marshall Joy.* 316, L75, 62-C5 (1987)
Infrared Emission from Young Stars in the Nucleus of M82. *Marshall Joy, Daniel F. Lester, & Paul M. Harvey.* 319, 314, 96-D5 (1987)
The Origin of the Infrared Luminosity in Centaurus A. *Marshall Joy, Daniel F. Lester, Paul M. Harvey, & H. Benton Ellis.* 326, 662, 40-G11 (1988)
Far-Infrared Observations of a Luminous Dust-shrouded Source in the Nucleus of NGC 4945. *David Brock, Marshall Joy, Daniel F. Lester, Paul M. Harvey, & H. Benton Ellis, Jr.* 329, 208, 77-C9 (1988)
Far-Infrared Emission from the AG Carinae Ring. *Peter J. McGregor, Keith Finlayson, A. R. Hyland, Marshall Joy, Paul M. Harvey, & Dan F. Lester.* 329, 874, 86-E12 (1988)
The Genesis of the Ring Galaxy Arp 144 (NGC 7828/29). *Marshall Joy, H. B. Ellis, Jr., E. V. Tollestrup, D. Brock, J. L. Higdon, & P. M. Harvey.* 330, L29, 96-E10 (1988)
Near-Infrared Line and Continuum Emission from the Blue Dwarf Galaxy II Zw 40. *Marshall Joy & Daniel F. Lester.* 331, 145, 107-F1 (1988)
Luminous Extranuclear Star Formation in the Interacting Galaxy Arp 118 (NGC 1143/44). *Marshall Joy & Frank D. Ghigo.* 332, 179, 125-A9 (1988)
The Far-Infrared Structure of the Luminous Interacting Galaxy Arp 299 (NGC 3690). *Marshall Joy, Daniel F. Lester, Paul M. Harvey, C. M. Telesco, Rudolf Decher, Lee J Rickard, & Howard Bushouse.* 339, 100, 51-C8 (1989)
JOYCE, R. R. Observations of 3.2–3.6 Micron Emission Features in Comet Halley. *R. F. Knacke, T. Y. Brooke, & R. R. Joyce.* 310, L49, 138-D7 (1986)
A Flux-limited Sample of Galactic Carbon Stars. *M. J. Claussen, S. G. Kleinmann, R. R. Joyce, & M. Jura.* 65, 385, 33-F1 (1987)
2.2 Micron Image of 3C 368 at $z=1.13$, a Galaxy with Aligned Radio and Stellar Axes. *K. C. Chambers, G. K. Miley, & R. R. Joyce.* 329, L75, 89-C2 (1988)
High-Luminosity Carbon Stars in the Galactic Anticenter. *M. Jura, R. R. Joyce, & S. G. Kleinmann.* 336, 924, 14-A6 (1989)
The Optical/Infrared Counterpart(s) of IRAS 18333–2357. *F. C. Gillett, G. H. Jacoby, R. R. Joyce, J. G. Cohen, G. Neugebauer, B. T. Soifer, T. Nakajima, & K. Matthews.* 338, 862, 44-F1 (1989)
JOYCE, RICHARD J. The Ni/Fe Ratio in the Crab Nebula. *Douglas Hudgins, Terry Herter, & Richard J. Joyce.* 354, L57, 86-C11 (1990)
JOYCE, RICHARD R. The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 302, 662, 37-G8 (1986)
The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness: Erratum. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 312, 963, 13-E1 (1987) (Orig. paper in 302, 662, 37-G8 (1986))
JUDA, M. Observations of the Soft X-Ray Diffuse Background at 0.1 keV. *J. J. Bloch, K. Jahoda, M. Juda, D. McCammon, W. T. Sanders, & S. L. Snowden.* 308, L59, 120-F8 (1986)
JUDGE, D. L. *Pioneer 10* Observations of the Beta Cephei Stars Gamma Pegasi and Delta Ceti. *Geraldine J. Peters, H. S. Ogawa, K. S. Judge, & D. L. Judge.* 314, 261, 31-A3 (1987)
The Hydrogen Density of the Local Interstellar Medium and an Upper Limit to the Galactic Glow Determined from *Pioneer 10* Ultraviolet Photometer Observations. *F. M. Wu, P. Gangopadhyay, H. S. Ogawa, & D. L. Judge.* 331, 1004, 120-A11 (1988)
The Heliospheric Hydrogen Density Profile in the Presence of a Solar Wind Shock. *P. Gangopadhyay & D. L. Judge.* 336, 999, 15-A1 (1989)
Evidence of a Nearby Solar Wind Shock as Obtained from Distant *Pioneer 10* Ultraviolet Glow Data. *P. Gangopadhyay, H. S. Ogawa, & D. L. Judge.* 336, 1012, 15-B1 (1989)
JUDGE, K. S. *Pioneer 10* Observations of the Beta Cephei Stars Gamma Pegasi and Delta Ceti. *Geraldine J. Peters, H. S. Ogawa, K. S. Judge, & D. L. Judge.* 314, 261, 31-A3 (1987)
JUDGE, P. High-Dispersion Observations of Alpha Bootis (K1 III) with the *International Ultraviolet Explorer*. *T. R. Ayres, P. Judge, C. Jordan, A. Brown, & J. L. Linsky.* 311, 947, 158-C1 (1986)
JUDGE, P. G. On the Interpretation of Chromospheric Emission Lines. *P. G. Judge.* 348, 279, 4-E1 (1990)
JUDGE, PHILIP. Stringent Limits on the Ionized Mass Loss from A and F Dwarfs. *Alexander Brown, Anthony Vealé, Philip Judge, Jay A. Bookbinder, & Ivan Hubeny.* 361, 220, 159-F3 (1990)
JUGAKU, J. SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)
JUGAKU, JUN. The Abundance of Gallium in B-Type Chemically Peculiar Stars. *Masahide Takada-Hidai, Kozo Sadakane, & Jun Jugaku.* 304, 425, 58-D14 (1986)
The Abundance of Gallium in B-Type Chemically Peculiar Stars: Addendum. *Masahide Takada-Hidai, Kozo Sadakane, & Jun Jugaku.* 320, 437, 112-G4 (1987) (Orig. paper in 304, 425, 58-D14 (1986))
The Abundance of Zinc in Hg-Mn Stars. *Kozo Sadakane, Jun Jugaku, & Masahide Takada-Hidai.* 325, 776, 29-A13 (1988)
JUNG, G. V. The Hard X-Ray to Low-Energy Gamma-Ray Spectrum of the Crab Nebula. *G. V. Jung.* 338, 972, 46-A1 (1989)
JUNKKARINEN, VESA T. Spectrophotomery of Six Broad Absorption Line QSOs. *Vesa T. Junkkarinen, E. Margaret Burbidge, & Harding E. Smith.* 317, 460, 69-A7 (1987)
The Nature of the BL Lacertae Object AO 0235+164. *Ross D. Cohen, Harding E. Smith, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 318, 577, 87-C2 (1987)
Variability of the Broad Absorption Lines in the QSO UM 232. *Thomas A. Barlow, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 347, 674, 191-E7 (1989)
JUNOR, W. Subluminal Motion and Limb Brightening in the Nuclear Jet of M87. *M. J. Reid, J. A. Biretta, W. Junor, T. W. B. Muxlow, & R. E. Spencer.* 336, 112, 2-D1 (1989)
JURA, M. Supernova Nucleosynthesis in Low-Metallicity Populations. *M. Jura.* 301, 624, 22-D12 (1986)
Mass Loss from Carbon Stars. *M. Jura.* 303, 327, 44-F1 (1986)
Cool Interstellar Matter in Early-Type Galaxies. *M. Jura.* 306, 483, 89-F9 (1986)
RV Tauri Stars as Post–Asymptotic Giant Branch Objects. *M. Jura.* 309, 732, 129-C6 (1986)
Interstellar Dust in Shapley-Ames Elliptical Galaxies. *M. Jura, D.-W. Kim, G. R. Knapp, & P. Guhathakurta.* 312, L11, 7-A13 (1987)
Mass-losing Red Giants in Open Clusters. *M. Jura.* 313, 743, 25-A1 (1987)
A Flux-limited Sample of Galactic Carbon Stars. *M. J. Claussen, S. G. Kleinmann, R. R. Joyce, & M. Jura.* 65, 385, 33-F1 (1987)
Mass Loss from S Stars. *M. Jura.* 66, 33, 1-D11 (1988)
The Bipolar Outflow from the Rotating Carbon Star, V Hydrae. *C. Kahane, C. Maizels, & M. Jura.* 328, L25, 66-F1 (1988)
H I Observations of the Elliptical Galaxies NGC 2974 and NGC 5018. *D.-W. Kim, P. Guhathakurta, J. H. van Gorkom, M. Jura, & G. R. Knapp.* 330, 684, 100-A8 (1988)
Discovery of CO Emission from NGC 1275. *B. Lazareff, A. Castets, D.-W. Kim, & M. Jura.* 336, L13, 8-C9 (1989)
High-Luminosity Carbon Stars in the Galactic Anticenter. *M. Jura, R. R. Joyce, & S. G. Kleinmann.* 336, 924, 14-A6 (1989)
Dust-enshrouded Asymptotic Giant Branch Stars in the Solar Neighborhood. *M. Jura & S. G. Kleinmann.* 341, 359, 88-C1 (1989)
Interstellar Matter in Early-Type Galaxies. I. IRAS Flux Densities. *G. R. Knapp, P. Guhathakurta, D.-W. Kim, & M. Jura.* 70, 329, 23-B1 (1989)
Dust around AFGL 2688, Molecular Shielding, and the Production of Carbon Chain Molecules. *M. Jura & H. Kroto.* 351, 222, 40-G1 (1990)

The Probable Dust Formation Episode around ρ Cassiopeiae. *M. Jura & S. G. Kleinmann.* 351, 583, 47-D1 (1990)

Mass-losing M Supergiants in the Solar Neighborhood. *M. Jura & S. G. Kleinmann.* 73, 769, 28-F5 (1990)

Very Dusty Carbon-rich Asymptotic Giant Branch Stars between ~1 and ~2.5 Kiloparsecs from the Sun. *M. Jura & S. G. Kleinmann.* 364, 663, 204-D5 (1990)

The Absence of Circumstellar Dust Debris around G Giants. *M. Jura.* 365, 317, 210-C11 (1990)

JURA, MICHAEL. The $^{12}C/^{13}C$ Isotope Ratio of the Interstellar Medium in the Neighborhood of the Sun. *Isabel Hawkins & Michael Jura.* 317, 926, 76-C5 (1987)

JURAK, A. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

JUSICK, ANTHONY T. HR 1362: A Test Case for Stellar Dynamo Theories. *Klaus G. Strassmeier, Douglas S. Hall, William S. Barksdale, Anthony T. Jusick, & Gregory W. Henry.* 350, 367, 29-E3 (1990)

JUST, A. Heating of the Intracluster Medium. *A. Just, B. M. Deiss, W. H. Kegel, H. Böhringer, & G. E. Morfill.* 354, 400, 81-D1 (1990)

JUSZKIEWICZ, R. 2.7 K Radiation and the Isotropy of the Universe. *S. Bajtlik, R. Juszkiewicz, M. Prószyński, & P. Amsterdamski.* 300, 463, 8-C1 (1986)

Galaxy Clustering and the Origin of Large-Scale Flows. *R. Juszkiewicz & A. Yahil.* 346, L49, 181-B1 (1989)

The Masses of Rich Clusters of Galaxies as a Test of the Biased Cold Dark Matter Theory. *P. J. E. Peebles, R. A. Daly, & R. Juszkiewicz.* 347, 563, 190-C1 (1989)

JUSZKIEWICZ, ROMAN. Hot Spots in the Microwave Sky. *Nicola Vittorio & Roman Juszkiewicz.* 314, L29, 39-A9 (1987)

Minimal Cosmic Background Fluctuations Implied by Streaming Motions. *Roman Juszkiewicz, Krzysztof Górski, & Joseph Silk.* 323, L1, 158-A4 (1987)

Double Inflation: A Possible Resolution of the Large-Scale Structure Problem. *Michael S. Turner, Jens V. Villumsen, Nicola Vittorio, Joseph Silk, & Roman Juszkiewicz.* 323, 423, 159-C1 (1987)

Searching for the Great Attractor. *Edmund Bertschinger & Roman Juszkiewicz.* 334, L59, 169-A10 (1988)

An Estimate of the Velocity Correlation Tensor: Cosmological Implications. *Edward J. Groth, Roman Juszkiewicz, & Jeremiah P. Ostriker.* 346, 558, 174-D6 (1989)

Is There Structure on the Scale of $300h^{-1}$ Mpc? *Marc Postman, David N. Spergel, Brian Sutin, & Roman Juszkiewicz.* 346, 588, 174-F10 (1989)

Local Gravity and Large-Scale Structure. *Roman Juszkiewicz, Nicola Vittorio, & Rosemary F. G. Wyse.* 349, 408, 20-C11 (1990)

Topology of Microwave Background Fluctuations: Theory. *J. Richard Gott III, Changbom Park, Roman Juszkiewicz, William E. Bies, David P. Bennett, François R. Bouchet, & Albert Stebbins.* 352, 1, 50-A11 (1990)

KAASTRA, J. S. Non-Equilibrium Ionization Effects in the Supernova Remnant RCW 86. *J. J. Claas, A. Smith, J. S. Kaastra, P. A. J. de Korte, & A. Peacock.* 337, 399, 22-C6 (1989)

KABE, S. Upper Limit for Ultra-High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

KAEFER, G. Ion Trap Studies of Association Processes in Collisions of CH_3^+ and CD_3^+ with n-H_2, p-H_2, D_2, and He at 80 K. *D. Gerlich & G. Kaefer.* 347, 849, 193-G13 (1989)

KÄPPELER, F. ^{148,150}Sm: A Test for *s*-Process Nucleosynthesis. *R. R. Winters, F. Käppeler, K. Wisshak, A. Mengoni, & G. Reffo.* 300, 41, 1-D5 (1986)

^{7}Li$(n,\gamma)^8$Li—Trigger Reaction to a Primordial *r*-Process? *M. Wiescher, R. Steininger, & F. Käppeler.* 344, 464, 138-F6 (1989)

The Stellar Neutron Capture Cross Sections of ^{94}Zr and ^{96}Zr. *K. A. Toukan & F. Käppeler.* 348, 357, 5-D7 (1990)

s-Process Nucleosynthesis: Classical Approach and Asymptotic Giant Branch Models for Low-Mass Stars. *F. Käppeler, R. Gallino, M. Busso, G. Picchio, & C. M. Raiteri.* 354, 630, 84-B7 (1990)

^{88}Sr and ^{89}Y: The *s*-Process at Magic Neutron Number $N = 50$. *F. Käppeler, W. R. Zhao, H. Beer, & U. Ratzel.* 355, 348, 91-B12 (1990)

KAFATOS, M. Evidence for Extended Radio Emission Surrounding RX Puppis. *J. M. Hollis, R. J. Oliversen, M. Kafatos, & A. G. Michalitsianos.* 301, 877, 24-C4 (1986)

Sub–Arc Second 2 Centimeter Continuum and SiO Spectral Line Observations of R Aquarii. *J. M. Hollis, A. G. Michalitsianos, M. Kafatos, M. C. H. Wright, & W. J. Welch.* 309, L53, 125-G2 (1986)

Ultraviolet Variability and Mass Expulsion from R Aquarii. *M. Kafatos, A. G. Michalitsianos, & J. M. Hollis.* 62, 853, 43-C4 (1986)

The Large-Scale Radio Structure of R Aquarii. *J. M. Hollis, M. Kafatos, A. G. Michalitsianos, R. J. Oliversen, & F. Yusef-Zadeh.* 321, L55, 129-F6 (1987)

The C IV Doublet Ratio Intensity Effect in Symbiotic Stars. *A. G. Michalitsianos, M. Kafatos, R. P. Fahey, R. Viotti, A. Cassatella, & A. Altamore.* 331, 477, 111-F1 (1988)

RX Puppis: Detection of Asymmetrical Radio Structure. *J. M. Hollis, F. Yusef-Zadeh, T. J. Cornwell, R. J. Oliversen, A. G. Michalitsianos, & M. Kafatos.* 337, 514, 23-G9 (1989)

Sanduleak's Star (LMC Anonymous): Its Similarity in the Far-Ultraviolet with the Luminous Object η Carinae and SN 1987A. *A. G. Michalitsianos, M. Kafatos, & S. N. Shore.* 341, 367, 88-C11 (1989)

R Aquarii: Evidence for a Two-sided Radio Jet and a Circumbinary SiO Maser. *M. Kafatos, J. M. Hollis, F. Yusef-Zadeh, A. G. Michalitsianos, & M. Elitzur.* 346, 991, 179-D9 (1989)

Comparisons of SiO Maser and Long-Period Variable Positions in the R Aquarii and Omicron Ceti Binary Systems. *J. M. Hollis, M. C. H. Wright, W. J. Welch, P. R. Jewell, H. E. Crull, Jr., M. Kafatos, & A. G. Michalitsianos.* 361, 663, 166-C12 (1990)

KAFATOS, MINAS. The Unusual Ultraviolet Variability of the QSO 3C 232. *Frederick C. Bruhweiler, Minas Kafatos, & Ulysses J. Sofia.* 303, L31, 53-B10 (1986)

Supershells and Propagating Star Formation. *Richard McCray & Minas Kafatos.* 317, 190, 66-B1 (1987)

KAFTANDJIAN, V. P. Partial Redistribution in High-Density, Highly Ionized Plasmas. *B. Talin, R. Stamm, V. P. Kaftandjian, & Lewis Klein.* 322, 804, 148-E12 (1987)

KAFTAN-KASSIM, M. A. Filled-Aperture Maps of Selected H II Regions at 3.5 Millimeters. *M. A. Gordon, P. R. Jewell, M. A. Kaftan-Kassim, & C. J. Salter.* 308, 288, 111-B12 (1986)

KAHABKA, P. *EXOSAT* Observations of the 35 Day Cycle of Hercules X-1: Evidence for Neutron Star Precession. *J. Trümper, P. Kahabka, H. Ögelman, W. Pietsch, & W. Voges.* 300, L63, 13-E1 (1986)

KAHANA, S. Collapse of 9 $M_\odot$ Stars. *E. Baron, J. Cooperstein, & S. Kahana.* 320, 300, 111-D1 (1987)

Collapsing White Dwarfs. *E. Baron, J. Cooperstein, S. Kahana, & K. Nomoto.* 320, 304, 111-D5 (1987)

KAHANE, C. The Bipolar Outflow from the Rotating Carbon Star, V Hydrae. *C. Kahane, C. Maizels, & M. Jura.* 328, L25, 66-F1 (1988)

KAHLER, S. W. Solar Filament Eruptions and Energetic Particle Events. *S. W. Kahler, E. W. Cliver, H. V. Cane, R. E. McGuire, R. G. Stone, & N. R. Sheeley, Jr.* 302, 504, 33-F9 (1986)

Filament Eruptions and the Impulsive Phase of Solar Flares. *S. W. Kahler, R. L. Moore, S. R. Kane, & H. Zirin.* 328, 824, 72-B7 (1988)
Coronal Mass Ejections and Associated X-Ray Flare Durations. *S. W. Kahler, N. R. Sheeley, Jr., & M. Liggett.* 344, 1026, 146-F3 (1989)
Discrete Changes in Solar Coronal Hole Boundaries. *S. W. Kahler & D. Moses.* 362, 728, 179-G1 (1990)
KAHN, S. An *EXOSAT* Observation of Quiescent and Flare Coronal X-Ray Emission from Algol. *N. E. White, J. L. Culhane, A. N. Parmar, B. J. Kellett, S. Kahn, G. H. J. van den Oord, & J. Kuijpers.* 301, 262, 16-F14 (1986)
KAHN, S. M. Spectral Variability of Cygnus X-2: Structure in the Circumsource Material. *S. D. Vrtilek, S. M. Kahn, J. E. Grindlay, D. J. Helfand, & F. D. Seward.* 307, 698, 104-E9 (1986)
X-Ray Emission Lines from Three Galactic Bulge Sources. *S. D. Vrtilek, D. J. Helfand, J. P. Halpern, S. M. Kahn, & F. D. Seward.* 308, 644, 116-A10 (1986)
Determination of Photospheric Helium Abundances for the Hot White Dwarfs LB 1663 and CD −38°10980 from *EXOSAT* Soft X-Ray Photometry. *F. B. S. Paerels, J. Heise, S. M. Kahn, & R. D. Rogers.* 322, 315, 141-C6 (1987)
Long-Term Temporal Variability of Cygnus X-2. *S. D. Vrtilek, J. H. Swank, R. L. Kelley, & S. M. Kahn.* 329, 276, 78-B1 (1988)
X-Ray Spectroscopy of the Ultrasoft Transient 4U 1543−47. *H. van der Woerd, N. E. White, & S. M. Kahn.* 344, 320, 137-A7 (1989)
Soft X-Ray Emission Lines from Low-Mass X-Ray Binaries. I. Collision-dominated Models. *T. R. Kallman, S. D. Vrtilek, & S. M. Kahn.* 345, 498, 155-C8 (1989)
EXOSAT Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)
KAHN, STEVEN M. *Einstein* Observations of the Soft X-Ray Background Close to the Galactic Plane. *Steven M. Kahn & Jean-Pierre Caillault.* 305, 526, 73-A10 (1986)
On the Interpretation of the Soft X-Ray Background: The Effects of an Embedded Cloud Geometry. *Peter Jakobsen & Steven M. Kahn.* 309, 682, 128-F9 (1986)
On the Interpretation of the Soft X-Ray Background. II. What Do the Beryllium Band Data Really Tell Us? *Steven M. Kahn & Peter Jakobsen.* 329, 406, 79-E4 (1988)
Bowen Fluorescence in Scorpius X-1. *Jonathan Schachter, Alexei V. Filippenko, & Steven M. Kahn.* 340, 1049, 81-D1 (1989)
X-Ray Spectral Signatures of Photoionized Plasmas. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 350, L37, 37-B9 (1990)
Bowen Fluorescence in a Sample of Seyfert Nuclei. *Jonathan Schachter, Alexei V. Filippenko, & Steven M. Kahn.* 362, 74, 170-A9 (1990)
Bowen Fluorescence in Scorpius X-1: Erratum. *Jonathan Schachter, Alexei V. Filippenko, & Steven M. Kahn.* 362, 379, 173-G5 (1990) (Orig. paper in 340, 1049, 81-D1 (1989))
KAI, KEIZO. Energetic Electrons in Impulsive and Extended Solar Flares as Deduced from Flux Correlations between Hard X-Rays and Microwaves. *Takeo Kosugi, Brian R. Dennis, & Keizo Kai.* 324, 1118, 15-G1 (1988)
The Spatial, Spectral, and Temporal Character of the Hard X-Ray Flare of 1982 February 3. *Nariaki Nitta, Alan L. Kiplinger, & Keizo Kai.* 337, 1003, 31-C2 (1989)
KAIFU, N. High-Resolution Observations of CO from the Bipolar Nebula CRL 2688. *R. Kawabe, M. Ishiguro, T. Kasuga, K.-I. Morita, N. Ukita, H. Kobayashi, S. Okumura, E. Fomalont, & N. Kaifu.* 314, 322, 31-F1 (1987)
V Hydrae: A Carbon Star in Transformation to a Bipolar Nebula. *T. Tsuji, W. Unno, N. Kaifu, H. Izumiura, N. Ukita, S. Cho, & K. Koyama.* 327, L23, 53-C1 (1988)
A Sensitive Line Search in Circumstellar Envelopes. *Nguyen-Quang-Rieu, S. Deguchi, H. Izumiura, N. Kaifu, M. Ohishi, H. Suzuki, & Nobuharu Ukita.* 330, 374, 94-D1 (1988)
Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)
A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)
Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews, Y. Minh, S. Saito, N. Ukita, & S. Yamamoto.* 342, 871, 113-B5 (1989)
Search for HC_3NH^+: The Upper Limit of the Column Density in TMC-1. *T. Amano, S. Saito, S. Yamamoto, K. Kawaguchi, H. Suzuki, M. Ohishi, & N. Kaifu.* 351, 500, 46-C6 (1990)
Molecular Envelope of the Planetary Nebula NGC 7027. *S. Deguchi, H. Izumiura, N. Kaifu, X. Mao, Nguyen-Q-Rieu, & N. Ukita.* 351, 522, 46-E9 (1990)
KAIFU, NORIO. Detection of Intense Unidentified Lines in TMC-1. *Norio Kaifu, Hiroko Suzuki, Masatoshi Ohishi, Takeshi Miyaji, Shin-ichi Ishikawa, Takashi Kasuga, Masaki Morimoto, & Shuji Saito.* 317, L111, 78-E14 (1987)
Laboratory Detection and Astronomical Identification of a New Free Radical, $CCS(^3\Sigma^-)$. *Shuji Saito, Kentarou Kawaguchi, Satoshi Yamamoto, Masatoshi Ohishi, Hiroko Suzuki, & Norio Kaifu.* 317, L115, 78-F3 (1987)
Laboratory Detection of a New Carbon-Chain Molecule C_3S and Its Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Norio Kaifu, Hiroko Suzuki, & Masatoshi Ohishi.* 317, L119, 78-F7 (1987)
Level Population and Para/Ortho Ratio of Fluorescent H_2 in NGC 2023. *Tetsuo Hasegawa, Ian Gatley, Ron P. Garden, Peter W. J. L. Brand, Masatoshi Ohishi, Masahiko Hayashi, & Norio Kaifu.* 318, L77, 92-D12 (1987)
Laboratory and Astronomical Detection of the Cyclic H_3H Radical. *Satoshi Yamamoto, Shuji Saito, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, Norio Kaifu, & Akinori Murakami.* 322, L55, 145-D12 (1987)
Detection of $H^{13}CN$ Maser Emission from the Ground State toward Y Canum Venaticorum. *Hideyuki Izumiura, Nobuharu Ukita, Ryohei Kawabe, Norio Kaifu, Takashi Tsuji, Wasaburo Unno, & Kouichi Koyama.* 323, L81, 158-F10 (1987)
The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)
Structure of Cepheus A. I. CO Observations. *Saeko Suzuki Hayashi, Tetsuo Hasegawa, & Norio Kaifu.* 332, 354, 127-A9 (1988)
Laboratory Detection of a New Interstellar Free Radical $CH_2CN(^2B_1)$. *Shuji Saito, Satoshi Yamamoto, W. M. Irvine, L. M. Ziurys, Hiroko Suzuki, Masatoshi Ohishi, & Norio Kaifu.* 334, L113, 169-F10 (1988)
High-Resolution CO Observations of NGC 1068. *Noboru Kaneko, Kazuhiko Morita, Yasuo Fukui, Koji Sugitani, Takahiro Iwata, Naomasa Nakai, Norio Kaifu, & Harvey S. Liszt.* 337, 691, 27-E7 (1989)
The Microwave Spectrum of the CP Radical and Related Astronomical Search. *Shuji Saito, Satoshi Yamamoto, Kentarou Kawaguchi, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, & Norio Kaifu.* 341, 111-4, 99-A1 (1989)
Detection of a New Circumstellar Carbon Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)
A New CO Bipolar Flow and Dense Disk System Associated with the Infrared Reflection Nebula GGD 27 IRS. *Takuya Yamashita, Hiroko Suzuki, Norio Kaifu, Motohide Tamura, Charles M. Mountain, & Toby J. T. Moore.* 347, 894, 194-E7 (1989)
The Inner, Dense Part of the Protostellar Disk: A CS $J = 7$–6 Observation around NGC 2071 IRS. *Takuya Yamashita, Saeko S. Hayashi, Norio Kaifu, Osamu Kameya, Nobuharu Ukita, & Tetsuo Hasegawa.* 347, L85, 199-E1 (1989)

Laboratory Microwave Spectroscopy of the Linear C_3 and C_3D Radicals and Related Astronomical Observation. *Satoshi Yamamoto, Shuji Saito, Hiroko Suzuki, Shuji Deguchi, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 348, 363, 5-E1 (1990)

CO Outflow and Infrared Reflection Nebula of GSS 30 in the Rho Ophiuchi Core. *Motohide Tamura, Shuji Sato, Hiroko Suzuki, Norio Kaifu, & Jim H. Hough.* 350, 728, 35-B1 (1990)

An Infrared Quintuplet near the Galactic Center. *Haruyuki Okuda, Hiroshi Shibai, Takao Nakagawa, Hideo Matsuhara, Yukiyasu Kobayashi, Norio Kaifu, Tetsuya Nagata, I. Gatley, & T. R. Geballe.* 351, 89, 39-B11 (1990)

A Spectacular Molecular Outflow in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, Tetsuo Hasegawa, Saeko S. Hayashi, Masahiko Hayashi, Norio Kaifu, Ian Gatley, Thomas P. Greene, & Erick T. Young.* 352, 615, 58-F1 (1990)

Rotational Spectrum of the CCS Radical Studied by Laboratory Microwave Spectroscopy and Radio-astronomical Observations. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Yoshihiro Chikada, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 361, 318, 160-G7 (1990)

Detection of Five ^{13}C Isotopic Species of HC_5N in TMC-1. *Shuro Takano, Hiroko Suzuki, Masatoshi Ohishi, Shin-ichi Ishikawa, Norio Kaifu, Yasuhiro Hirahara, & Akimasa Masuda.* 361, L15, 161-D11 (1990)

The Density Structure of the Protostellar Disk: A Power-Law Distribution of the Dust around GGD 27 IRS. *Takuya Yamashita, Shuji Sato, Norio Kaifu, & Saeko S. Hayashi.* 365, 615, 215-G9 (1990)

KAILEY, WALTER F. A Study of Warm *IRAS* Seyfert Galaxies. *Walter F. Kailey & Marcia J. Lebofsky.* 326, 653, 40-G2 (1988)

KAINER, S. Radiation from Relativistic Beams Interacting with Interstellar Gas. *W. K. Rose, J. H. Beall, J. Guillory, & S. Kainer.* 314, 95, 29-A12 (1987)

KAISER, MARY ELIZABETH. A Precise Measurement of the Cosmic Microwave Background Radiation Temperature from CN Observations toward ζ Persei. *Mary Elizabeth Kaiser & Edward L. Wright.* 356, L1, 103-B7 (1990)

KAISER, N. The Statistics of Peaks of Gaussian Random Fields. *J. M. Bardeen, J. R. Bond, N. Kaiser, & A. S. Szalay.* 304, 15, 54-B6 (1986)

KAISER, NICK. Local Gravity and Peculiar Velocity: Probes of Cosmological Models. *Ofer Lahav, Nick Kaiser, & Yehuda Hoffman.* 352, 448, 56-F3 (1990)

KAISIG, M. Nonlinear Excitation of Magnetic Undular Instability by Convective Motion. *M. Kaisig, T. Tajima, K. Shibata, S. Nozawa, & R. Matsumoto.* 358, 698, 132-C3 (1990)

KAITCHUCK, R. H. Evidence for a Bipolar Wind in the Cataclysmic Variable PG 1012−029. *R. K. Honeycutt, E. M. Schlegel, & R. H. Kaitchuck.* 302, 388, 32-D14 (1986)

A Spectrophotometric Study and Mass Determination for the Cataclysmic Variable Lanning 10. *E. M. Schlegel, R. K. Honeycutt, & R. H. Kaitchuck.* 307, 760, 105-C7 (1986)

KAITCHUCK, RONALD H. Time-resolved Spectrophotometry of the Cataclysmic Variable EX Hydrae. *Ronald H. Kaitchuck, Panayiotis A. Hantzios, Panagiotis Kakaletris, R. Kent Honeycutt, & Eric M. Schlegel.* 317, 765, 74-D3 (1987)

Atlas of Time-resolved Spectrophotometry of Cataclysmic Variables. *R. Kent Honeycutt, Ronald H. Kaitchuck, & Eric M. Schlegel.* 65, 451, 34-D4 (1987)

The Transient Accretion Disk in the Short-Period Algol System TZ Eridani. *Ronald H. Kaitchuck & Elizabeth A. Park.* 325, 225, 21-E9 (1988)

Spectroscopy of the Dwarf Nova RX Andromedae from Quiescence to Eruption. *Ronald H. Kaitchuck, Cathy S. Mansperger, & Panayiotis A. Hantzios.* 330, 305, 93-D11 (1988)

Spectroscopic and Photometric Observations of Transient Accretion Disks in U Cephei. *Ronald H. Kaitchuck, R. Kent Honeycutt, & Danny R. Faulkner.* 339, 420, 55-C1 (1989)

Spectroscopy of the Dwarf Nova TW Virginis Caught on the Rise to Outburst. *Cathy S. Mansperger & Ronald H. Kaitchuck.* 358, 268, 125-D9 (1990)

Doppler Imaging of the Dwarf Nova U Geminorum. *T. R. Marsh, Keith Horne, Eric M. Schlegel, R. Kent Honeycutt, & Ronald H. Kaitchuck.* 364, 637, 204-B1 (1990)

KAJINO, T. Can ^9Be Provide a Test of Cosmological Theories? *R. N. Boyd & T. Kajino.* 336, L55, 16-E10 (1989)

Experimental Determination of the $^{19}Ne(p,\gamma)^{20}Na$ Reaction Rate and the Breakout Problem from the Hot CNO Cycle. *S. Kubono, H. Orihara, S. Kato, & T. Kajino.* 344, 460, 138-F1 (1989)

Production of the Light Elements in Primordial Nucleosynthesis. *T. Kajino & R. N. Boyd.* 359, 267, 139-D1 (1990)

Primordial Nucleosynthesis of Intermediate-Mass Elements in Baryon-Number–inhomogeneous Big Bang Models: Observational Tests. *T. Kajino, G. J. Mathews, & G. M. Fuller.* 364, 7, 194-B6 (1990)

KAJINO, TOSHITAKA. Radiative Alpha-Capture Rates Leading to $A = 7$ Nuclei: Applications to the Solar Neutrino Problem and Big Bang Nucleosynthesis. *Toshitaka Kajino, Hiroshi Toki, & Sam M. Austin.* 319, 531, 99-A12 (1987)

Radiative Alpha-Capture Rates Leading to $A = 7$ Nuclei: Applications to the Solar Neutrino Problem and Big Bang Nucleosynthesis: Erratum. *Toshitaka Kajino, Hiroshi Toki, & Sam M. Austin.* 327, 1060, 60-D11 (1988) (Orig. paper in 319, 531, 99-A12 (1987))

KAJITA, T. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

KAKALETRIS, PANAGIOTIS. Time-resolved Spectrophotometry of the Cataclysmic Variable EX Hydrae. *Ronald H. Kaitchuck, Panayiotis A. Hantzios, Panagiotis Kakaletris, R. Kent Honeycutt, & Eric M. Schlegel.* 317, 765, 74-D3 (1987)

KALBERLA, P. M. W. The Structure of the Interstellar Medium at the 25 AU Scale. *P. J. Diamond, W. M. Goss, J. D. Romney, R. S. Booth, P. M. W. Kalberla, & U. Mebold.* 347, 302, 185-G3 (1989)

KALER, JAMES B. Electron Temperatures in Planetary Nebulae. *James B. Kaler.* 308, 322, 111-E5 (1986)

C^+2 Electron Temperatures in Planetary Nebulae. *James B. Kaler.* 308, 337, 111-F7 (1986)

The Complex Wind of the Central Star of the Planetary Nebula Abell 78. *James B. Kaler, Walter A. Feibelman, & H. F. Henrichs.* 324, 528, 7-A6 (1988)

Apparent Magnitudes of Luminous Planetary Nebula Nuclei. II. A Survey of Southern-Hemisphere Planetary Nebulae. *Richard A. Shaw & James B. Kaler.* 69, 495, 8-G1 (1989)

A Case Study of a WC Planetary Nebula Nucleus: Henize 2-99. *James B. Kaler, Richard A. Shaw, Walter A. Feibelman, & Julie H. Lutz.* 70, 213, 21-C1 (1989)

Electron Densities in Planetary Nebulae. *Letizia Stanghellini & James B. Kaler.* 343, 811, 129-D1 (1989)

Central Star Temperatures of Optically Thick Planetary Nebulae and a Distance-independent Test of Dredge-up Theory. *James B. Kaler & George H. Jacoby.* 345, 871, 161-D5 (1989)

Large Planetary Nebulae and Their Significance to the Late Stages of Stellar Evolution. *James B. Kaler, Richard A. Shaw, & Karen B. Kwitter.* 359, 392, 140-G11 (1990)

The Relation between Chemical Enrichment and Core Mass in Planetary Nebulae. *James B. Kaler & George H. Jacoby.* 362, 491, 176-G7 (1990)

KALKOFEN, W. The Equilibrium Structure of Thin Magnetic Flux Tubes. II. *W. Kalkofen, R. Rosner, A. Ferrari, & S. Massaglia.* 304, 519, 59-E10 (1986)

The Equilibrium Structure of a Thin Magnetic Flux Tube. III. The Effects of Molecular CO Absorption. *S. Massaglia, G. Bodo, W. Kalkofen, & R. Rosner.* 333, 925, 150-D9 (1988)

KALKOFEN, WOLFGANG. Chromospheric Heating. *Wolfgang Kalkofen.* 346, L37, 173-D12 (1989)

KALLMAN, T. Molecule Formation in Quasar Broad-Line Cloud Gas. *T. Kallman, S. Lepp, & P. Giovannoni.* 321, 907, 134-D10 (1987)

Broad-Line Variability in NGC 5548. *T. Kallman & M. Elitzur.* 328, 523, 68-G1 (1988)

Iron K Lines from Low-Mass X-Ray Binaries. *T. Kallman & N. E. White.* 341, 955, 97-A8 (1989)

KALLMAN, T. R. The Effects of Electron Scattering Opacity in the Broad Emission-Line Regions of Quasars. *T. R. Kallman & J. H. Krolik.* 308, 805, 117-F9 (1986)

Line Formation in the Hot Spot Region of Cataclysmic Variable Accretion Disks. *Moshe Elitzur, John T. Clarke, & T. R. Kallman.* 324, 405, 5-F1 (1988)

X-Ray Spectral Models of Galactic Bulge Sources: The Emission-Line Factor. *S. D. Vrtilek, J. H. Swank, & T. R. Kallman.* 326, 186, 34-B6 (1988)

An *EXOSAT* X-Ray Observation of One Orbital Cycle of 4U 1700–37/HD 153919. *F. Haberl, N. E. White, & T. R. Kallman.* 343, 409, 123-B8 (1989)

Soft X-Ray Emission Lines from Low-Mass X-Ray Binaries. I. Collision-dominated Models. *T. R. Kallman, S. D. Vrtilek, & S. M. Kahn.* 345, 498, 155-C8 (1989)

KALLMAN, TIMOTHY R. Rapid Variability of P Cygni Lines in Massive X-Ray Binaries. *Timothy R. Kallman, Richard McCray, & G. Mark Voit.* 317, 746, 74-B12 (1987)

Fe K Features as Probes of the Nuclear Reflection Region in Seyfert Galaxies. *Julian H. Krolik & Timothy R. Kallman.* 320, L5, 114-A8 (1987)

The Effects of Thermal Accretion Disk Spectra on the Emission Lines from Active Galactic Nuclei. *Julian H. Krolik & Timothy R. Kallman.* 324, 714, 11-B6 (1988)

Orbital Variability in the Wind of the Massive X-Ray Binary HD 153919/4U 1700–37. *G. Hammerschlag-Hensberge, Ian D. Howarth, & Timothy R. Kallman.* 352, 698, 59-F1 (1990)

Hydrodynamic Simulations of Stellar Wind Disruption by a Compact X-Ray Source. *John M. Blondin, Timothy R. Kallman, Bruce A. Fryxell, & Ronald E. Taam.* 356, 591, 107-E9 (1990)

X-Ray Illuminated Stellar Winds: Ionization Effects in the Radiative Driving of Stellar Winds in Massive X-Ray Binary Systems. *Ian R. Stevens & Timothy R. Kallman.* 365, 321, 210-D1 (1990)

KALLRATH, JOSEF. A New Method to Optimize Parameters in Solutions of Eclipsing Binary Light Curves. *Josef Kallrath & Albert P. Linnell.* 313, 346, 18-F11 (1987)

MR Cygni Revisited. *Albert P. Linnell & Josef Kallrath.* 316, 754, 60-C12 (1987)

KALRA, G. L. Gravitational Instability of Thermally Anisotropic Plasma. *Bhupinder Singh & G. L. Kalra.* 304, 6, 54-A11 (1986)

KALUZNY, JANUSZ. The Discovery of Six New Short-Period Variables in the Old Open Cluster NGC 188. *Janusz Kaluzny & Michael M. Shara.* 314, 585, 36-A2 (1987)

A CCD Search for Faint Variables in the Field of an ω Centauri Low-Luminosity X-Ray Source, and in 47 Tucanae. *Michael M. Shara, Janusz Kaluzny, Michael Potter, & Anthony F. J. Moffat.* 328, 594, 69-E12 (1988)

Photometry and Spectroscopy of Newly Discovered Polar: Nova Cygni 1975 (V 1500 Cygni). *Janusz Kaluzny & Tomasz Chlebowski.* 332, 287, 126-C9 (1988)

KAMATA, K. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

KAMEYA, O. Expanding Molecular Torus around the Planetary Nebula IRAS 21282+5050. *K. M. Shibata, S. Tamura, S. Deguchi, N. Hirano, O. Kameya, & T. Kasuga.* 345, L55, 157-E9 (1989)

KAMEYA, OSAMU. Bipolar Outflow in B335. *Naomi Hirano, Osamu Kameya, Masatoshi Nakayama, & Keiya Takakubo.* 327, L69, 61-D1 (1988)

G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)

High-Velocity Flows in the NGC 7538 Molecular Cloud. *Osamu Kameya, Tatsuhiko I. Hasegawa, Naomi Hirano, Keiya Takakubo, & Munezo Seki.* 339, 222, 52-F5 (1989)

The Inner, Dense Part of the Protostellar Disk: A CS $J = 7$–6 Observation around NGC 2071 IRS. *Takuya Yamashita, Saeko S. Hayashi, Norio Kaifu, Osamu Kameya, Nobuharu Ukita, & Tetsuo Hasegawa.* 347, L85, 199-E1 (1989)

New H_2O Masers in the NGC 7538 Region. *Osamu Kameya, Koh-Ichiro Morita, Ryohei Kawabe, & Masato Ishiguro.* 355, 562, 95-D7 (1990)

Circumnuclear Molecular Gas in Seyfert Galaxies. *Yoshiaki Taniguchi, Osamu Kameya, Naomasa Nakai, & Kimiaki Kawara.* 358, 132, 123-E10 (1990)

KAMINISI, KEISUKE. The $^{14}N(e^-, \nu)^{14}C(\alpha, \gamma)^{18}O$ Reaction and Helium Flashes in Accreting Helium White Dwarfs. *Masa-aki Hashimoto, Ken'ichi Nomoto, Kenzo Arai, & Keisuke Kaminisi.* 307, 687, 104-D9 (1986)

KAMIONKOWSKI, M. P. Cosmic-Ray Energy Spectra between 10 and Several Hundred GeV per Atomic Mass Unit for Elements from $_{18}$Ar to $_{28}$Ni: Results from *HEAO 3. W. R. Binns, T. L. Garrard, M. H. Israel, Michael D. Jones, M. P. Kamionkowski, J. Klarmann, E. C. Stone, & C. J. Waddington.* 324, 1106, 15-F3 (1988)

KANAAN, A. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

KANBACH, G. Solar Neutron Emissivity during the Large Flare on 1982 June 3. *E. L. Chupp, H. Debrunner, E. Flückiger, D. J. Forrest, F. Golliez, G. Kanbach, W. T. Vestrand, J. Cooper, & G. Share.* 318, 913, 91-A1 (1987)

KANBACH, GOTTFRIED. Gamma-Ray Limits on ^{22}Na Production in Novae. *Mark D. Leising, Gerald H. Share, Edward L. Chupp, & Gottfried Kanbach.* 328, 755, 71-C13 (1988)

KANDRUP, HENRY E. Gravitational Landau Damping for an Isotropic Cluster of Stars. *Salman Habib, Henry E. Kandrup, & Ping F. Yip.* 309, 176, 121-G11 (1986)

Entropy and Galaxy Clustering. *Henry E. Kandrup.* 326, 77, 32-G2 (1988)

Maximum Entropy Reconstruction and the Observed Symmetries of Higher Order Galaxy Covariance Functions. *Henry E. Kandrup.* 333, 130, 139-D1 (1988)

Geometric Approach to Secular and Nonlinear Stability for Spherical Star Clusters. *Henry E. Kandrup.* 351, 104, 39-D1 (1990)

The Evolution of a System of Stars in an External Environment. *Henry E. Kandrup.* 364, 100, 195-C1 (1990)

Divergence of Nearby Trajectories for the Gravitational N-Body Problem. *Henry E. Kandrup.* 364, 420, 201-B13 (1990)

KANE, S. R. Rapid Acceleration of Energetic Particles in the 1982 February 8 Solar Flare. *S. R. Kane, E. L. Chupp, D. J. Forrest, G. H. Share, & E. Rieger.* 300, L95, 13-G2 (1986)

Solar Gradual Hard X-Ray Bursts and Associated Phenomena. *E. W. Cliver, B. R. Dennis, A. L. Kiplinger, S. R. Kane, D. F. Neidig, N. R. Sheeley, Jr., & M. J. Koomen.* 305, 920, 79-A12 (1986)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

Directivity of 100 keV–1 MeV Photon Sources in Solar Flares. *S. R. Kane, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 326, 1017, 44-F8 (1988)

Filament Eruptions and the Impulsive Phase of Solar Flares. *S. W. Kahler, R. L. Moore, S. R. Kane, & H. Zirin.* 328, 824, 72-B7 (1988)

Solar Flare Nuclear Gamma Rays and Interplanetary Proton Events. *E. W. Cliver, D. J. Forrest, H. V. Cane, D. V. Reames, R. E. McGuire, T. T. von Rosenvinge, S. R. Kane, & R. J. MacDowall.* 343, 953, 131-A1 (1989)

KANE, SHARAD R. Two-Frequency Imaging of Microwave Impulsive Flares near the Solar Limb. *George A. Dulk, Timothy S. Bastian, & Sharad R. Kane.* 300, 438, 5-G6 (1986)
Soft X-Ray, Microwave, and Hard X-Ray Emission from a Solar Flare: Implications for Electron Heating and Acceleration in Current Channels. *Gordon D. Holman, Mukul R. Kundu, & Sharad R. Kane.* 345, 1050, 163-E8 (1989)
KANEKO, NOBORU. High-Resolution CO Observations of NGC 1068. *Noboru Kaneko, Kazuhiko Morita, Yasuo Fukui, Koji Sugitani, Takahiro Iwata, Naomasa Nakai, Norio Kaifu, & Harvey S. Liszt.* 337, 691, 27-E7 (1989)
KANEYUKI, K. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)
KANG, HYESUNG. Hydrogen Molecules and the Radiative Cooling of Pregalactic Shocks. *Paul R. Shapiro & Hyesung Kang.* 318, 32, 79-C8 (1987)
Diffusive Cosmic-Ray Acceleration: Two-Fluid Models with *In Situ* Injection. *Hyesung Kang & T. W. Jones.* 353, 149, 64-A7 (1990)
Radiative Shocks inside Protogalaxies and the Origin of Globular Clusters. *Hyesung Kang, Paul R. Shapiro, S. Michael Fall, & Martin J. Rees.* 363, 488, 190-C1 (1990)
Time-dependent Evolution of Cosmic-Ray–mediated Shocks in the Two-Fluid Model. *T. W. Jones & Hyesung Kang.* 363, 499, 190-D1 (1990)
KANZAWA, T. Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)
KANZAWA, TOMIO. Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M−0.13−0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)
KAPLAN, G. H. Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)
Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)
KAPOOR, R. C. Effects of Spacetime Curvature and Rotation on Arrival Times of Pulses from Fast Pulsars. *R. C. Kapoor & B. Datta.* 311, 680, 155-C1 (1986)
Limits on Rotation-induced Characteristics of Radiation from Stable Rapidly Rotating Neutron Stars. *B. Datta & R. C. Kapoor.* 331, 784, 117-E1 (1988)
KAPRANIDIS, STELIOS. The Chemical Composition of the Cool White Dwarf LP 701-29. *Stelios Kapranidis & James Liebert.* 305, 863, 78-C14 (1986)
KAR, K. Late-Time Neutrino Heating and Energetics of Stalled Shocks in Type II Supernovae. *A. Ray & K. Kar.* 319, 143, 94-E9 (1987)
KARBELKAR, S. N. Detection of Parity of a Binary Star in Triple Correlation Speckle Interferometry. I. Signal-to-Noise Ratio. *S. N. Karbelkar.* 351, 334, 42-C1 (1990)
Detection of Parity of a Binary Star in Triple Correlation Speckle Interferometry. I. Signal-to-Noise Ratio: Erratum. *S. N. Karbelkar.* 359, 256, 137-C1 (1990) (Orig. paper in 351, 334, 42-C1 (1990))
KARIMABADI, H. Electron Cyclotron Harmonic Wave Acceleration. *H. Karimabadi, C. R. Menyuk, P. Sprangle, & L. Vlahos.* 316, 462, 55-B2 (1987)
KARLICKY, M. Beam Heating in Solar Flares: Electrons or Protons? *J. C. Brown, M. Karlicky, A. L. MacKinnon, & G. H. J. van den Oord.* 73, 343, 22-D9 (1990)
KAROL, P. J. Geometric Scaling of Nuclear Interaction Cross Sections at Ultrarelativistic Energies. *P. J. Karol.* 332, 615, 131-A4 (1988)
KAROVSKA, M. On the Alpha Orionis Triple System. *M. Karovska, P. Nisenson, & R. Noyes.* 308, 260, 110-G11 (1986)
Detection of a Very Bright Source Close to the LMC Supernova SN 1987A. *P. Nisenson, C. Papaliolios, M. Karovska, & R. Noyes.* 320, L15, 114-B4 (1987)
Detection of a Very Bright Source Close to the LMC Supernova SN 1987A: Erratum. *P. Nisenson, C. Papaliolios, M. Karovska, & R. Noyes.* 324, L35, 9-C8 (1988) (Orig. paper in 320, L15, 114-B4 (1987))
Measurements of the Diameter of the Large Magellanic Cloud Supernova SN 1987A. *M. Karovska, L. Koechlin, P. Nisenson, C. Papaliolios, & C. Standley.* 340, 435, 72-E12 (1989)
KARPEN, J. T. High-Resolution X-Ray Spectra of Solar Flares. VIII. Mass Upflow in the Large Flare of 1980 November 7. *J. T. Karpen, G. A. Doschek, & J. F. Seely.* 306, 327, 85-A1 (1986)
Nonlinear Evolution of Radiation-driven Thermally Unstable Fluids. *R. B. Dahlburg, C. R. DeVore, J. M. Picone, J. T. Mariska, & J. T. Karpen.* 315, 385, 44-B5 (1987)
KARPEN, JUDITH T. Response of an Emerging Flux Tube to a Current-driven Instability. *Judith T. Karpen & Jay P. Boris.* 307, 826, 106-A7 (1986)
Nonlocal Thermal Transport in Solar Flares. *Judith T. Karpen & C. Richard DeVore.* 320, 904, 119-F3 (1987)
Nonlinear Thermal Instability in the Solar Transition Region. *Judith T. Karpen, J. Michael Picone, & Russell B. Dahlburg.* 324, 590, 7-F7 (1988)
Nonlinear Thermal Instability in Magnetized Solar Plasmas. *Judith T. Karpen, Spiro K. Antiochos, J. Michael Picone, & Russell B. Dahlburg.* 338, 493, 39-A1 (1989)
Nonlocal Thermal Transport in Solar Flares. II. Spectroscopic Diagnostics. *Judith T. Karpen, Chung-Chieh Cheng, George A. Doschek, & C. Richard DeVore.* 338, 1184, 48-C3 (1989)
On the Formation of Current Sheets in the Solar Corona. *Judith T. Karpen, Spiro K. Antiochos, & C. Richard DeVore.* 356, L67, 110-D7 (1990)
KASAHARA, K. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)
KASHLINSKY, A. Dynamical Friction in Rotating Systems: Application to Clusters and Galaxies. *A. Kashlinsky.* 306, 374, 88-E7 (1986)
Dynamical Friction and Evolution of the Luminosity Function in Clusters of Galaxies. *A. Kashlinsky.* 312, 497, 8-C13 (1987)
Gravitational Clustering and the Origin of the Correlation Function of Clusters of Galaxies. *A. Kashlinsky.* 317, 19, 64-B11 (1987)
On Dynamical Models of Stellar Systems of Finite Extent. *A. Kashlinsky.* 325, 566, 26-F7 (1988)
Small-Scale Fluctuations in the Microwave Background Radiation and Multiple Gravitational Lensing. *A. Kashlinsky.* 331, L1, 114-A5 (1988)
On the Coherence Length of Large-Scale Peculiar Velocities and Gravitational Clustering. *A. Kashlinsky.* 343, L5, 125-B10 (1989)
KASSIM, NAMIR E. SNR Candidates from the Clark Lake Galactic Plane Survey. *Namir E. Kassim.* 328, L55, 74-E7 (1988)
The Clark Lake 30.9 MHz Galactic Plane Survey. *Namir E. Kassim.* 68, 715, 34-B7 (1988)
Improved Estimates of Galactic H II Region Emission Measures and Filling Factors: Low-Frequency VLA Observations near Sharpless 53. *Namir E. Kassim, Kurt W. Weiler, William C. Erickson, & T. L. Wilson.* 338, 152, 34-G9 (1989)

Radio Spectrum Studies of 32 First-Quadrant Galactic Supernova Remnants. *Namir E. Kassim.* 71, 799, 47-D1 (1989)
Low-Frequency Observations of Galactic Supernova Remnants and the Distribution of Low-Density Ionized Gas in the Interstellar Medium. *Namir E. Kassim.* 347, 915, 194-G9 (1989)
Structure in Small Molecular Clouds: Pedestals and Clumping. *Loris Magnani, John M. Carpenter, Leo Blitz, Namir E. Kassim, & Biman B. Nath.* 73, 747, 28-D3 (1990)
W30 Revealed: Separation and Analysis of Thermal and Nonthermal Emission in a Galactic Complex. *Namir E. Kassim & Kurt W. Weiler.* 360, 184, 147-C10 (1990)
KASTNER, J. H. Molecules in NGC 6781 and Other Ringlike Planetary Nebulae. *B. Zuckerman, J. H. Kastner, Bruce Balick, & Ian Gatley.* 356, L59, 110-C10 (1990)
KASTNER, S. O. Electron Collisional Excitation and Resonant Photoexcitation of Solar S XI. *S. O. Kastner & A. K. Bhatia.* 309, 883, 131-A1 (1986)
Spatial Probing of Nebular Properties via Bowen Pumping. *A. K. Bhatia & S. O. Kastner.* 331, 826, 118-A5 (1988)
Multilevel Calculations of the Ne IV Solar Spectrum. *A. K. Bhatia & S. O. Kastner.* 332, 1063, 136-B7 (1988)
The Optically Thick O III Spectrum. I. Diagnostic Ratios Involving the Intercombination Lines. *S. O. Kastner & A. K. Bhatia.* 71, 665, 45-C11 (1989)
The Fe XI–excited Fluorescent Cascade in Ne IV. *A. K. Bhatia & S. O. Kastner.* 352, 772, 60-F1 (1990)
Explicit Relations in Bowen Fluorescence: Applications to Nebulae, the Sun, Scorpius X-1, and Laboratory Plasmas. *S. O. Kastner & A. K. Bhatia.* 362, 745, 180-B1 (1990)
KASUGA, T. High-Resolution Observations of CO from the Bipolar Nebula CRL 2688. *R. Kawabe, M. Ishiguro, T. Kasuga, K.-I. Morita, N. Ukita, H. Kobayashi, S. Okumura, E. Fomalont, & N. Kaifu.* 314, 322, 31-F1 (1987)
Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)
Expanding Molecular Torus around the Planetary Nebula IRAS 21282+5050. *K. M. Shibata, S. Tamura, S. Deguchi, N. Hirano, O. Kameya, & T. Kasuga.* 345, L55, 157-E9 (1989)
Nuclear Concentration of Molecular Gas in the Late-Type Spiral Galaxy NGC 6946: 300 Parsec Scale Gaseous Disk. *S. Ishizuki, R. Kawabe, M. Ishiguro, S. K. Okumura, K.-I. Morita, Y. Chikada, T. Kasuga, & M. Doi.* 355, 436, 93-G3 (1990)
KASUGA, TAKASHI. Detection of Intense Unidentified Lines in TMC-1. *Norio Kaifu, Hiroko Suzuki, Masatoshi Ohishi, Takeshi Miyaji, Shin-ichi Ishikawa, Takashi Kasuga, Masaki Morimoto, & Shuji Saito.* 317, L111, 78-E14 (1987)
Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M−0.13−0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)
Aperture Synthesis Observations of NH_3 in OMC-1: Filamentary Structures around Orion-KL. *Yasuhiro Murata, Ryohei Kawabe, Masato Ishiguro, Koh-Ichiro Morita, Takashi Kasuga, Toshiaki Takano, & Tetsuo Hasegawa.* 359, 125, 135-E9 (1990)
KATO, MARIKO. Mass Loss during Nova Outburst. *Mariko Kato & Izumi Hachisu.* 329, 808, 85-G6 (1988)
Why Did the Progenitor of SN 1987A Undergo the Blue-Red-Blue Evolution? *Hideyuki Saio, Mariko Kato, & Ken'ichi Nomoto.* 331, 388, 110-E5 (1988)
Stellar Wind during Helium Nova Outburst. *Mariko Kato, Hideyuki Saio, & Izumi Hachisu.* 340, 509, 73-E5 (1989)
A New Way to Type Ia Supernovae: Explosion in Common Envelope. *Izumi Hachisu, Mariko Kato, & Hideyuki Saio.* 342, L19, 109-B10 (1989)
Mass Loss during Nova Outbursts on Various White Dwarf Masses. *Mariko Kato & Izumi Hachisu.* 346, 424, 171-D1 (1989)
Theoretical Light Curve for the Recurrent Nova U Scorpii. *Mariko Kato.* 355, 277, 90-C9 (1990)
Theoretical Predictions for the Next Outburst of the Recurrent Nova T Pyxidis. *Mariko Kato.* 362, L17, 174-C3 (1990)
KATO, S. Experimental Determination of the $^{19}Ne(p,\gamma)^{20}Na$ Reaction Rate and the Breakout Problem from the Hot CNO Cycle. *S. Kubono, H. Orihara, S. Kato, & T. Kajino.* 344, 460, 138-F1 (1989)
KATO, SHOJI. Constraints for Transonic Black Hole Accretion. *Marek A. Abramowicz & Shoji Kato.* 336, 304, 4-G4 (1989)
KATO, T. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)
VLA Observations of the Radio Galaxy Hydra A (3C 218). *G. B. Taylor, R. A. Perley, M. Inoue, T. Kato, H. Tabara, & K. Aizu.* 360, 41, 145-E5 (1990)
KATZ, BILL. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)
KATZ, J. I. Comets, X-Ray Bursts, and Gamma-Ray Bursts. *J. I. Katz.* 309, 253, 122-F6 (1986)
An Instability of Radiative Acceleration. *J. I. Katz.* 317, 264, 66-G3 (1987)
Positron Annihilation at the Galactic Center. *B. J. Carrigan & J. I. Katz.* 323, 557, 160-G2 (1987)
Radiation-Hydrodynamic Calculation of Sub-Eddington Accretion Disks. *G. E. Eggum, F. V. Coroniti, & J. I. Katz.* 323, 634, 161-F1 (1987)
Disk Oscillations in Hercules X-1. *J. I. Katz.* 326, 194, 34-C3 (1988)
Particle Acceleration in Accreting Magnetospheres. *J. I. Katz & I. A. Smith.* 326, 733, 41-F3 (1988)
Radiation Hydrodynamic Calculation of Super-Eddington Accretion Disks. *G. E. Eggum, F. V. Coroniti, & J. I. Katz.* 330, 142, 91-E9 (1988)
Flash-photoionized Nebulae. *J. I. Katz.* 340, 344, 71-C11 (1989)
KATZ, N. A Microlensing Model for QSO 2237+0305. *J. Wambsganss, B. Paczyński, & N. Katz.* 352, 407, 56-B10 (1990)
H I Observations of Three *IRAS* Detected Elliptical Galaxies. *D. E. P. Walsh, J. H. van Gorkom, W. E. Bies, N. Katz, G. R. Knapp, & S. Wallington.* 352, 532, 57-F3 (1990)
KATZ, NEAL. Random Scattering Approach to Gravitational Microlensing. *Neal Katz, Steven Balbus, & Bohdan Paczyński.* 306, 2, 81-A7 (1986)
Magnetohydrodynamic Shocks in Diffuse Clouds. I. Chemical Processes. *B. T. Draine & Neal Katz.* 306, 655, 91-F7 (1986)
Magnetohydrodynamic Shocks in Diffuse Clouds. II. Production of CH^+, OH, CH, and Other Species. *B. T. Draine & Neal Katz.* 310, 392, 136-C5 (1986)
Gravitational Lensing by an Ensemble of Isothermal Galaxies. *Neal Katz & Bohdan Paczyński.* 317, 11, 64-B3 (1987)
TREESPH: A Unification of SPH with the Hierarchical Tree Method. *Lars Hernquist & Neal Katz.* 70, 419, 24-B5 (1989)
KAUFMAN, J. H. Nitrogenated Amorphous Carbons: A Potential Source of Diffuse Interstellar Infrared Emission. *D. D. Saperstein, S. Metin, & J. H. Kaufman.* 342, L47, 109-D11 (1989)
KAUFMAN, J. M. Frequencies of High-Degree Solar Oscillations. *K. G. Libbrecht & J. M. Kaufman.* 324, 1172, 16-D3 (1988)
Frequencies of Solar Oscillations. *K. G. Libbrecht, M. F. Woodard, & J. M. Kaufman.* 74, 1129, 46-F11 (1990)
KAUFMAN, MICHELE. The Global Structure of M81: Radio Continuum Maps. *Frank N. Bash & Michele Kaufman.* 310, 621, 140-E12 (1986)
Giant H II Regions in M81. *Michele Kaufman, Frank N. Bash, R. C. Kennicutt, Jr., & P. W. Hodge.* 319, 61, 93-F7 (1987)
A Comparison of Spiral Tracers in M81. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 345, 674, 159-B1 (1989)

The Dust Lanes in M81: Tracers of the Molecular Gas? *Michele Kaufman, Debra Meloy Elmegreen, & Frank N. Bash.* 345, 697, 159-D1 (1989)

A Comparison of Spiral Tracers in M81: Erratum. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 354, 387, 79-A10 (1990) (Orig. paper in 345, 674, 159-B1 (1989))

KAUFMANN, P. Evolution of 3C 273 at 10.7 GHz. *M. H. Cohen, J. A. Zensus, J. A. Biretta, G. Comoretto, P. Kaufmann, & Z. Abraham.* 315, L89, 49-B11 (1987)

On Removal of the Gradual Component in Analyses of Solar Impulsive Bursts. *J. E. R. Costa, J. C. Brown, E. Correia, & P. Kaufmann.* 73, 191, 20-C11 (1990)

KAVANAGH, R. W. $^{26}Mg(p, n)^{26}Al$ Cross Section Measurements: Erratum. *R. T. Skelton, R. W. Kavanagh, & D. G. Sargood.* 308, 485, 113-D2 (1986) (Orig. paper in 0, 404, 92-C14 (1983))

KAWABATA, K. ^{13}CO in Orion. *K. Sugitani, Y. Fukui, H. Ogawa, & K. Kawabata.* 303, 667, 49-G3 (1986)

Discovery of Seven Bipolar Outflows by an Unbiased Survey. *Y. Fukui, K. Sugitani, H. Takaba, T. Iwata, A. Mizuno, H. Ogawa, & K. Kawabata.* 311, L85, 160-E12 (1986)

KAWABE, R. High-Resolution Observations of CO from the Bipolar Nebula CRL 2688. *R. Kawabe, M. Ishiguro, T. Kasuga, K.-I. Morita, N. Ukita, H. Kobayashi, S. Okumura, E. Fomalont, & N. Kaifu.* 314, 322, 31-F1 (1987)

Position Confirmation of Water Maser Emission from V778 Cygni, a Carbon Star. *S. Deguchi, R. Kawabe, N. Ukita, Y. Nakada, T. Onaka, H. Izumiura, & Sadanori Okamura.* 325, 795, 29-C5 (1988)

Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

Nuclear Concentration of Molecular Gas in the Late-Type Spiral Galaxy NGC 6946: 300 Parsec Scale Gaseous Disk. *S. Ishizuki, R. Kawabe, M. Ishiguro, S. K. Okumura, K.-I. Morita, Y. Chikada, T. Kasuga, & M. Doi.* 355, 436, 93-G3 (1990)

High-Resolution Mapping of the Bipolar Outflow in NGC 2071: Evidence for a Wind-driven Molecular Outflow. *Y. Kitamura, R. Kawabe, T. Yamashita, & M. Hayashi.* 363, 180, 184-D1 (1990)

KAWABE, RYOHEI. Detection of $H^{13}CN$ Maser Emission from the Ground State toward Y Canum Venaticorum. *Hideyuki Izumiura, Nobuharu Ukita, Ryohei Kawabe, Norio Kaifu, Takashi Tsuji, Wasaburo Unno, & Kouichi Koyama.* 323, L81, 158-F10 (1987)

Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M−0.13−0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)

New H_2O Masers in the NGC 7538 Region. *Osamu Kameya, Koh-Ichiro Morita, Ryohei Kawabe, & Masato Ishiguro.* 355, 562, 95-D7 (1990)

Aperture Synthesis Observations of NH_3 in OMC-1: Filamentary Structures around Orion-KL. *Yasuhiro Murata, Ryohei Kawabe, Masato Ishiguro, Koh-Ichiro Morita, Takashi Kasuga, Toshiaki Takano, & Tetsuo Hasegawa.* 359, 125, 135-E9 (1990)

KAWADA, M. Discovery of a Peculiar X-Ray Pulsar GS 1843+00. *K. Koyama, M. Kawada, Y. Takeuchi, Y. Tawara, N. Ushimaru, T. Dotani, & M. Takizawa.* 356, L47, 110-B11 (1990)

Optically Thin Hot Plasma near the Galactic Center: Mapping Observations of the 6.7 keV Iron Line. *S. Yamauchi, M. Kawada, K. Koyama, H. Kunieda, & Y. Tawara.* 365, 532, 214-G5 (1990)

KAWAGUCHI, K. Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews, Y. Minh, S. Saito, N. Ukita, & S. Yamamoto.* 342, 871, 113-B5 (1989)

Search for HC_3NH^+: The Upper Limit of the Column Density in TMC-1. *T. Amano, S. Saito, S. Yamamoto, K. Kawaguchi, H. Suzuki, M. Ohishi, & N. Kaifu.* 351, 500, 46-C6 (1990)

KAWAGUCHI, KENTAROU. Laboratory Detection and Astronomical Identification of a New Free Radical, $CCS(^3\Sigma^-)$. *Shuji Saito, Kentarou Kawaguchi, Satoshi Yamamoto, Masatoshi Ohishi, Hiroko Suzuki, & Norio Kaifu.* 317, L115, 78-F3 (1987)

Laboratory Detection of a New Carbon-Chain Molecule C_3S and Its Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Norio Kaifu, Hiroko Suzuki, & Masatoshi Ohishi.* 317, L119, 78-F7 (1987)

The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)

The Microwave Spectrum of the CP Radical and Related Astronomical Search. *Shuji Saito, Satoshi Yamamoto, Kentarou Kawaguchi, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, & Norio Kaifu.* 341, 1114, 99-A1 (1989)

Detection of a New Circumstellar Carbon Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)

Rotational Spectrum of the CCS Radical Studied by Laboratory Microwave Spectroscopy and Radio-astronomical Observations. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Yoshihiro Chikada, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 361, 318, 160-G7 (1990)

KAWAGUCHI, N. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

KAWAI, N. Orbital Elements of the Binary X-Ray Pulsar GX 301−2. *N. Sato, F. Nagase, N. Kawai, R. L. Kelley, S. Rappaport, & N. E. White.* 304, 241, 56-E6 (1986)

X-Ray Observations of the Galactic Center by *Spartan 1*. *N. Kawai, E. E. Fenimore, J. Middleditch, R. G. Cruddace, G. G. Fritz, W. A. Snyder, & M. P. Ulmer.* 330, 130, 91-D11 (1988)

Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

Ginga Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

KAWAI, NOBUYUKI. The Rapid Burster: A Weakly Magnetized Neutron Star. *Tomoyuki Hanawa, Kouichi Hirotani, & Nobuyuki Kawai.* 336, 920, 14-A1 (1989)

Dust-Grain Scattering of X-Rays Observed during the Lunar Occultation of a Transient X-Ray Source near the Galactic Center. *Kazuhisa Mitsuda, Toshiaki Takeshima, Tsuneo Kii, & Nobuyuki Kawai.* 353, 480, 70-A6 (1990)

An Interpretation of X-Ray Spectra of Type II Bursts from the "Rapid Burster": Comptonization Due to Accretion Flow. *Kouichi Hirotani, Tomoyuki Hanawa, & Nobuyuki Kawai.* 355, 577, 95-F11 (1990)

KAWAI, YASUSHI. Off-Center Ignition of Nuclear Burning in Merging White Dwarfs. *Yasushi Kawai, Hideyuki Saio, & Ken'ichi Nomoto.* 315, 229, 42-D12 (1987)

Steady State Models of White Dwarfs Accreting Helium or Carbon/Oxygen–rich Matter. *Yasushi Kawai, Hideyuki Saio, &*

Ken'ichi Nomoto. 328, 207, 64-C2 (1988)

KAWALER, STEVEN D. Evolutionary Period Changes in Variable Helium-rich White Dwarfs. *Steven D. Kawaler, D. E. Winget, Icko Iben, Jr., & C. J. Hansen.* 302, 530, 36-C12 (1986)

The Helium Shell Game: Nonradial *g*-Mode Instabilities in Hydrogen-deficient Planetary Nebula Nuclei. *Steven D. Kawaler, D. E. Winget, C. J. Hansen, & Icko Iben, Jr.* 306, L41, 86-C13 (1986)

Evolutionary Period Changes in the Rapidly Oscillating Ap Stars. *Clayton H. Heller & Steven D. Kawaler.* 329, L43, 81-D7 (1988)

Angular Momentum Loss in Low-Mass Stars. *Steven D. Kawaler.* 333, 236, 140-F4 (1988)

The Hydrogen Shell Game: Pulsational Instabilities in Hydrogen Shell–burning Planetary Nebula Nuclei. *Steven D. Kawaler.* 334, 220, 156-F7 (1988)

On the Possibility of Detecting Weak Magnetic Fields in Variable White Dwarfs. *Philip W. Jones, W. Dean Pesnell, Carl J. Hansen, & Steven D. Kawaler.* 336, 403, 6-B12 (1989)

Evolutionary Models of the Rotating Sun. *M. H. Pinsonneault, Steven D. Kawaler, S. Sofia, & P. Demarque.* 338, 424, 38-B11 (1989)

Rotational Dating of Middle-aged Stars. *Steven D. Kawaler.* 343, L65, 132-D5 (1989)

Lithium in Halo Stars from Standard Stellar Evolution. *Constantine P. Deliyannis, Pierre Demarque, & Steven D. Kawaler.* 73, 21, 17-C11 (1990)

Rotation of Low-Mass Stars: A New Probe of Stellar Evolution. *M. H. Pinsonneault, Steven D. Kawaler, & P. Demarque.* 74, 501, 37-B11 (1990)

KAWANO, LAWRENCE. Primordial Lithium: New Reaction Rates, New Abundances, New Constraints. *Lawrence Kawano, David Schramm, & Gary Steigman.* 327, 750, 56-G4 (1988)

KAWARA, K. IRAS 18059–3211: Optically Known as "Gomez's Hamburger": Erratum. *M. T. Ruiz, V. Blanco, J. Maza, S. Heathcote, A. Phillips, K. Kawara, C. Anguita, M. Hamuy, & A. Gómez.* 320, L157, 121-F14 (1987) (Orig. paper in 316, L21, 56-B10 (1987))

KAWARA, KIMIAKA. [Fe II] 1.644 Micron Emission Line in Seyfert and Starburst Galaxies. *Kimiaka Kawara, Minoru Nishida, & Yoshiaki Taniguchi.* 328, L41, 74-D6 (1988)

KAWARA, KIMIAKI. Infrared Photometry and Spectroscopy of Supernova 1986g in NGC 5128–Centaurus A. *Jay A. Frogel, Brooke Gregory, Kimiaki Kawara, Dave Laney, M. M. Phillips, Don Terndrup, Frederick Vrba, & Albert E. Whitford.* 315, L129, 49-E11 (1987)

IRAS 18059–3211: Optically Known as "Gomez's Hamburger." *Marla Teresa Ruiz, Victor Blanco, José Maza, Steve Heathcote, Andrew Phillips, Kimiaki Kawara, Claudio Anguita, Mario Hamuy, & Arturo Gómez.* 316, L21, 56-B10 (1987)

Two Micron Spectroscopy of IRAS Galaxies. *Kimiaki Kawara, Minoru Nishida, & Brooke Gregory.* 321, L35, 129-D12 (1987)

Brackett α and γ Observations of Starburst and Seyfert Galaxies. *Kimiaki Kawara, Minoru Nishida, & M. M. Phillips.* 337, 230, 20-C1 (1989)

H_2 2.122 Micron Emission in NGC 3783 with a Bare Type 1 Seyfert Nucleus. *Kimiaki Kawara, Minoru Nishida, & Brooke Gregory.* 342, L55, 117-B10 (1989)

A Linear Correlation between H_2 $v = 1$–0 $S(1)$ and [O I] 6300 Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Yoshiaki Taniguchi, Kimiaki Kawara, & Minoru Nishida.* 346, L73, 181-C10 (1989)

H_2 Emission from Type 1 Seyferts and Quasars: Molecular Tori around Bare Nuclei. *Kimiaki Kawara, Minoru Nishida, & Brooke Gregory.* 352, 433, 56-E1 (1990)

A Relation between H_2 $v = 1$–0 $S(1)$ and 3.28 Micron Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Kimiaki Kawara, Yoshiaki Taniguchi, & Minoru Nishida.* 356, L39, 110-B1 (1990)

Circumnuclear Molecular Gas in Seyfert Galaxies. *Yoshiaki Taniguchi, Osamu Kameya, Naomasa Nakai, & Kimiaki Kawara.* 358, 132, 123-E10 (1990)

Excitation Mechanism of [Fe II] 1.644 Micron Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Minoru Nishida, Yoshiaki Taniguchi, & Kimiaki Kawara.* 360, 55, 145-F8 (1990)

CO Emission from the Nucleus of Infrared Galaxy NGC 4418: An Early AGN Phase? *Kimiaki Kawara, Yoshiaki Taniguchi, Naomasa Nakai, & Yoshiaki Sofue.* 365, L1, 212-A5 (1990)

KAWASAKI, M. Unstable Neutrino Reheating of the Universe and Distortion of Cosmic Background Radiation Spectrum. *M. Fukugita, M. Kawasaki, & T. Yanagida.* 342, L1, 109-A6 (1989)

Unstable Neutrino Reheating of the Universe and Distortion of Cosmic Background Radiation Spectrum: Erratum. *M. Fukugita, M. Kawasaki, & T. Yanagida.* 345, L103, 165-D5 (1989) (Orig. paper in 342, L1, 109-A6 (1989))

Reheating of the Universe by Unstable Neutrinos and Cosmic Background Radiation Distortion. *M. Fukugita & M. Kawasaki.* 353, 384, 68-G5 (1990)

KAWASHIMA, S. A High-Speed Shock Wave in the Impulsive Phase of the 1984 April 24 Flare. *H. Nakajima, S. Kawashima, N. Shinohara, Y. Shiomi, S. Enome, & E. Rieger.* 73, 177, 20-B1 (1990)

KAYSER, R. New Observations and Gravitational Lens Models of the Cloverleaf Quasar H1413+117. *R. Kayser, J. Surdej, J. J. Condon, K. I. Kellermann, P. Magain, M. Remy, & A. Smette.* 364, 15, 194-C1 (1990)

KAYSER, RAINER. Macro- and Micromodels for Gravitational Lenses. *Rainer Kayser.* 357, 309, 116-D7 (1990)

KAZANAS, DEMOSTHENES. The Central Engine of Quasars and Active Galactic Nuclei: Hadronic Interactions of Shock-accelerated Relativistic Protons. *Demosthenes Kazanas & Donald C. Ellison.* 304, 178, 55-G4 (1986)

Exact Vacuum Solution to Conformal Weyl Gravity and Galactic Rotation Curves. *Philip D. Mannheim & Demosthenes Kazanas.* 342, 635, 110-D9 (1989)

On the Nature of Emission-Line Clouds of Quasars and Active Galactic Nuclei. *Demosthenes Kazanas.* 347, 74, 183-A11 (1989)

Neutron Viscosity in Accretion Disks. *Nidhal Guessoum & Demosthenes Kazanas.* 358, 525, 130-B1 (1990)

KAZÈS, I. Detection of the OH Zeeman Effect toward Orion A. *T. H. Troland, R. M. Crutcher, & I. Kazès.* 304, L57, 66-C9 (1986)

Detection of H I, OH, CO, and Optical Imaging of the Distant Galaxy IRAS 12112+0305. *I. F. Mirabel, I. Kazès, & D. B. Sanders.* 324, L59, 18-C6 (1988)

The Magnetic Field in the Vicinity of S106. *I. Kazès, T. H. Troland, R. M. Crutcher, & C. Heiles.* 335, 263, 173-D7 (1988)

Molecular Gas in the Powerful Radio Galaxies Perseus A and 4C 12.50. *I. F. Mirabel, D. B. Sanders, & I. Kazès.* 340, L9, 75-D1 (1989)

KEADY, J. J. Detection of 12 Micron Mg I and OH Lines in Stellar Spectra. *D. E. Jennings, D. Deming, G. R. Wiedemann, & J. J. Keady.* 310, L39, 138-C12 (1986)

The IRC +10216 Circumstellar Envelope. I. Models for the Dust and Gas. *J. J. Keady, Donald N. B. Hall, & S. T. Ridgway.* 326, 832, 42-F6 (1988)

KEADY, JOHN J. The IRC +10216 Circumstellar Envelope. II. Spatial Measurements of the Dust. *Stephen T. Ridgway & John J. Keady.* 326, 843, 42-G3 (1988)

C_2H in the 2 Micron Infrared Spectrum of IRC +10216. *John J. Keady & Kenneth H. Hinkle.* 331, 539, 112-D3 (1988)

KEARNEY, M. The Effect of Gravitational Lensing on Pulsed Emission from Neutron Stars Exhibiting Quasi-Periodic Oscillation. *K. S. Wood, C. Ftaclas, & M. Kearney.* 324, L63, 18-C10 (1988)

KEARNEY, MICHAEL W. Hot Spots on Neutron Stars. II. The Observer's Sky. *Christ Ftaclas, Michael W. Kearney, & Kay Pechenick.* 300, 203, 3-C3 (1986)

KEEFE, HEIDI L. A Catalog of Observations for Stellar Masers. *Priscilla J. Benson, Irene R. Little-Marenin, Tara C. Woods, Joanne M. Attridge, Kristin A. Blais, Dana B. Rudolph, Myra E. Rubiera, & Heidi L. Keefe.* 74, 911, 44-B7 (1990)

KEEL, W. C. The Properties and Environment of the Giant, Infrared-Luminous Galaxy IRAS 09104+4109. *S. G. Kleinmann, Donald Hamilton, W. C. Keel, C. G. Wynn-Williams, S. A. Eales, E. E. Becklin, & K. D. Kuntz.* 328, 161, 63-F11 (1988)

Nuclear Outflow from the Edge-on Galaxy NGC 3628. *G. Fabbiano, T. Heckman, & W. C. Keel.* 355, 442, 93-G11 (1990)

KEEL, WILLIAM. A Spiral Galaxy at $z = 0.366$ Which Overlaps the Image of the Quasar 4C 39.47. *Paul Hintzen, W. Romanishin, Craig Foltz, & William Keel.* 337, L5, 25-A10 (1989)

KEEL, WILLIAM C. The Jet of PKS 0521−36: An Aging Counterpart of M87? *William C. Keel.* 302, 296, 31-C9 (1986)
Ultraviolet Spectrophotometry of Three LINERs. *Robert W. Goodrich & William C. Keel.* 305, 148, 68-E7 (1986)
The Host Galaxy of Markarian 231. *Donald Hamilton & William C. Keel.* 321, 211, 124-E1 (1987)
The Optical Continua of Extragalactic Radio Jets. *William C. Keel.* 329, 532, 82-D1 (1988)
Long-Slit Spectroscopy of 3C 31, 3C 75, 3C 465, NGC 1265, and Cygnus A. *Frazer N. Owen, Christopher P. O'Dea, & William C. Keel.* 352, 44, 50-F1 (1990)
Detection of Large Faraday Rotation in the Inner 2 Kiloparsecs of M87. *Frazer N. Owen, Jean A. Eilek, & William C. Keel.* 362, 449, 176-B1 (1990)
KEENAN, F. P. S V Line Ratios in the Sun. *P. L. Dufton, A. Hibbert, F. P. Keenan, A. E. Kingston, & G. A. Doschek.* 300, 448, 6-A4 (1986)
The Derivation of Solar Coronal Electron Temperature from the 1 ^1S–n ^1P/1 ^1S–2 ^1P Emission-Line Ratios in Mg XI. *F. P. Keenan, A. E. Kingston, & D. L. McKenzie.* 303, 486, 46-D4 (1986)
A Model Atmosphere Analysis of the Faint Early-Type Halo Star PHL 346. *F. P. Keenan, D. J. Lennon, P. J. F. Brown, & P. L. Dufton.* 307, 694, 104-E2 (1986)
Ne IX Emission-Line Ratios in Solar Active Regions. *F. P. Keenan, D. L. McKenzie, S. M. McCann, & A. E. Kingston.* 318, 926, 91-B2 (1987)
Electron Density Diagnostics for Late-Type Stellar Atmospheres. *F. P. Keenan, P. L. Dufton, K. M. Aggarwal, & A. E. Kingston.* 324, 1068, 15-C3 (1988)
Ca XV Line Ratios in Solar Flares. *F. P. Keenan, K. M. Aggarwal, K. A. Berrington, & K. G. Widing.* 327, 473, 52-C1 (1988)
S XV Emission-Line Ratios in the Sun. *S. M. McCann & F. P. Keenan.* 328, 344, 66-A1 (1988)
Fine-Structure Populations for the ^6D Ground State of Fe II. *F. P. Keenan, A. Hibbert, P. G. Burke, & K. A. Berrington.* 332, 539, 129-A5 (1988)
Population Ratios for the Fine-Structure Ground State of O I Applicable to the Interstellar Medium. *F. P. Keenan & K. A. Berrington.* 333, 806, 149-B6 (1988)
Argon XV Line Ratios in the Sun. *F. P. Keenan, K. G. Widing, & S. M. McCann.* 338, 563, 39-G1 (1989)
Fine-Structure Population Ratios for the ^3P Ground States of C I. *F. P. Keenan.* 339, 591, 57-B10 (1989)
Solar Si III Line Ratios from the High-Resolution Telescope and Spectrograph on Board *Spacelab 2*: The Effects of Non-Maxwellian Electron Distribution Function. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 340, 1135, 82-D1 (1989)
Electron Density Diagnostics of Fe XII in the Solar Plasma. *S. S. Tayal, Ronald J. W. Henry, F. P. Keenan, S. M. McCann, & K. G. Widing.* 343, 1004, 131-E1 (1989)
O III Line Ratios in the Sun. *F. P. Keenan & K. M. Aggarwal.* 344, 522, 139-E1 (1989)
The Determination of Element Abundances in the Solar Neighborhood from B-Type Stellar Spectra. I. Argon. *F. P. Keenan, B. Bates, P. L. Dufton, D. E. Holmgren, & S. Gilheany.* 348, 322, 5-A7 (1990)
The Ratio of Optical to Infrared Emission-Line Strengths in O III as Electron Temperature Diagnostics for Planetary Nebulae. *F. P. Keenan & K. M. Aggarwal.* 350, 262, 28-C1 (1990)
Effective Collision Strengths among Fine-Structure Levels of Ca XV. *K. M. Aggarwal, K. A. Berrington, & F. P. Keenan.* 72, 815, 16-F5 (1990)
Interspecies Emission-Line Ratios as Electron Density Diagnostics for Late-Type Stellar Atmospheres. *F. P. Keenan, P. L. Dufton, & A. E. Kingston.* 353, 636, 71-G1 (1990)
The 1 ^1S–n ^1P/1 ^1S–2 ^1P Emission-Line Ratios in Si XIII as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, S. M. McCann, & K. J. H. Phillips.* 363, 310, 186-A5 (1990)
Ne VII Line Ratios in the Sun. *F. P. Keenan, S. M. McCann, & K. G. Widing.* 363, 315, 186-A11 (1990)
The Determination of Element Abundances in the Solar Neighborhood from B-Type Stellar Spectra. II. Non–LTE Calculations for Ar II. *D. E. Holmgren, P. J. F. Brown, P. L. Dufton, & F. P. Keenan.* 364, 657, 204-C11 (1990)
KEENAN, FRANCIS P. PG 0832+676: An Apparently Normal B1 V Star 18 Kiloparsecs above the Galactic Plane. *Paul J. F. Brown, Philip L. Dufton, Francis P. Keenan, Alec Boksenberg, David L. King, & Max Pettini.* 339, 397, 55-A2 (1989)
KEENAN, PHILIP C. The Perkins Catalog of Revised MK Types for the Cooler Stars. *Philip C. Keenan & Raymond C. McNeil.* 71, 245, 38-D1 (1989)
KEENE, J. B. CO Emission from Centaurus A. *T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, R. J. Howard, C. R. Masson, D. B. Sanders, B. Veidt, & K. Young.* 322, L73, 152-B8 (1987)
CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)
KEENE, JOCELYN. Comparison of Submillimeter and Ultraviolet Observations of Neutral Carbon toward Zeta Ophiuchi. *Jocelyn Keene, Geoffrey A. Blake, & T. G. Phillips.* 313, 396, 19-D1 (1987)
Small-Scale Structure of the Circumstellar Gas around L1551 IRS 5. *Anneila I. Sargent, Steven Beckwith, Jocelyn Keene, & Colin Masson.* 333, 936, 150-E6 (1988)
The Abundances of Atomic Carbon and Carbon Monoxide Compared with Visual Extinction in the Ophiuchus Molecular Cloud Complex. *Margaret A. Frerking, Jocelyn Keene, Geoffrey A. Blake, & T. G. Phillips.* 344, 311, 136-G10 (1989)
Detection of a 45 AU Radius Source around L1551-IRS 5: A Possible Accretion Disk. *Jocelyn Keene & Colin R. Masson.* 355, 635, 96-D12 (1990)
The Extremely High Velocity CO Flow in HH 7–11. *Colin R. Masson, Lee G. Mundy, & Jocelyn Keene.* 357, L25, 115-D7 (1990)
KEGEL, W. H. Heating of the Intracluster Medium. *A. Just, B. M. Deiss, W. H. Kegel, H. Böhringer, & G. E. Morfill.* 354, 400, 81-D1 (1990)
KEIL, STEPHEN L. Diagnostics for Propagating Waves in the Solar Photosphere. *Stephen L. Keil & Ciro Marmolino.* 310, 912, 144-A6 (1986)
KEIM, ERIC R. The Reaction of C^+ with HCN: Isomeric Identity of the C_2H^+ Product. *Robert G. Daniel, Eric R. Keim, & James M. Farrar.* 303, 439, 45-G11 (1986)
KELLERMANN, K. I. New Observations and Gravitational Lens Models of the Cloverleaf Quasar H1413+117. *R. Kayser, J. Surdej, J. J. Condon, K. I. Kellermann, P. Magain, M. Remy, & A. Smette.* 364, 15, 194-C1 (1990)
KELLETT, B. J. An *EXOSAT* Observation of Quiescent and Flare Coronal X-Ray Emission from Algol. *N. E. White, J. L. Culhane, A. N. Parmar, B. J. Kellett, S. Kahn, G. H. J. van den Oord, & J. Kuijpers.* 301, 262, 16-F14 (1986)
KELLEY, L. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)
KELLEY, R. L. Orbital Elements of the Binary X-Ray Pulsar GX 301−2. *N. Sato, F. Nagase, N. Kawai, R. L. Kelley, S. Rappaport, & N. E. White.* 304, 241, 56-E6 (1986)
Long-Term Temporal Variability of Cygnus X-2. *S. D. Vrtilek, J. H. Swank, R. L. Kelley, & S. M. Kahn.* 329, 276, 78-B1 (1988)
KELLY, D. M. 60 Micron Luminosity Evolution of Rich Clusters of Galaxies. *D. M. Kelly & G. H. Rieke.* 361, 354, 162-E5 (1990)
KELSALL, T. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)
COBE Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin,*

S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright. 360, 685, 154-F1 (1990)

KELSCH, RICHARD. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

KEMBALL, A. J. Newly Discovered Methanol Masers Associated with IRAS Sources. *A. J. Kemball, M. J. Gaylard, & G. D. Nicolson.* 331, L37, 114-D1 (1988)

KEMBHAVI, AJIT. QSO Activity and Host Galaxy Evolution. *Smita Shanbhag & Ajit Kembhavi.* 334, 34, 154-D7 (1988)

KEMP, J. C. Epsilon Aurigae: Polarization, Light Curves, and Geometry of the 1982–1984 Eclipse. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, T. B. Ake, T. Simon, & G. W. Collins.* 300, L11, 7-B2 (1986)

Variable Polarization and Activity in Arcturus. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, & D. K. Duncan.* 301, L35, 20-D7 (1986)

SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)

Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)

Discovery of Broad-Band Optical Circular Polarization in Alpha Leonis. *G. D. Henson, J. C. Kemp, D. J. Kraus, & D. J. Hankins.* 340, L65, 83-C5 (1989)

KEMP, JAMES C. Photometry of SS 433 over 7 Years: Study of Two Periodicities. *Tsevi Mazeh, James C. Kemp, Elia M. Leibowitz, Herbert Meninger, & Haim Mendelson.* 317, 824, 75-A13 (1987)

KEMPER, EDWARD. WZ Sagittae: Time-resolved Spectroscopy during Quiescence. *Ronald L. Gilliland, Edward Kemper, & Nicholas Suntzeff.* 301, 252, 16-F4 (1986)

The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

KENNAN, F. P. Emission-Line Ratios for O III in Gaseous Nebulae and a Comparison between Theory and Observation. *F. P. Kennan & K. M. Aggarwal.* 319, 403, 97-E7 (1987)

KENNEY, J. D. P. Asymmetric Outflow in the Molecular Envelope of Mira. *P. Planesas, J. D. P. Kenney, & R. Bachiller.* 364, L9, 199-B8 (1990)

KENNEY, JEFF. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

KENNEY, JEFFREY. Molecular Gas, the Interstellar Medium, and Star Formation in S0 and Sa Galaxies. *Harley A. Thronson, Jr., Linda Tacconi, Jeffrey Kenney, Matthew A. Greenhouse, Michael Margulis, Lowell Tacconi-Garman, & Judith S. Young.* 344, 747, 143-E10 (1989)

KENNEY, JEFFREY D. CO in H I–deficient Virgo Cluster Spiral Galaxies. *Jeffrey D. Kenney & Judith S. Young.* 301, L13, 20-B12 (1986)

CO Observations of Infrared Bright Galaxies: The Efficiency of Star Formation. *Judith S. Young, F. Peter Schloerb, Jeffrey D. Kenney, & Steven D. Lord.* 304, 443, 58-F4 (1986)

The Molecular Content of Interacting and Isolated Galaxies: The Effect of Environment on the Efficiency of Star Formation. *Judith S. Young, Jeffrey D. Kenney, Linda Tacconi, M. J. Claussen, Y.-L. Huang, Lowell Tacconi-Garman, Shuding Xie, & F. Peter Schloerb.* 311, L17, 152-B11 (1986)

CO Observations of All Virgo Cluster Spiral Galaxies Brighter than $B_T^0 = 12$. *Jeffrey D. Kenney & Judith S. Young.* 66, 261, 5-D1 (1988)

Low-Mass Spiral Galaxies with Little Molecular Gas and Prodigious Star Formation. *Jeffrey D. Kenney & Judith S. Young.* 326, 588, 40-A7 (1988)

KENNEY, JEFFREY D. P. Global Properties of Infrared Bright Galaxies. *Judith S. Young, Shuding Xie, Jeffrey D. P. Kenney, & Walter L. Rice.* 70, 699, 29-C1 (1989)

The Effects of Environment on the Molecular and Atomic Gas Properties of Large Virgo Cluster Spirals. *Jeffrey D. P. Kenney & Judith S. Young.* 344, 171, 135-B7 (1989)

The Asymmetric CO Distribution in the Virgo Cluster Spiral NGC 4419. *Jeffrey D. P. Kenney, Judith S. Young, Tetsuo Hasegawa, & Naomasa Nakai.* 353, 460, 69-F7 (1990)

KENNICUTT, R. C. Spiral Structure of M51: Thermal and Nonthermal Emission. *R. P. J. Tilanus, R. J. Allen, J. M. van der Hulst, P. C. Crane, & R. C. Kennicutt.* 330, 667, 99-G1 (1988)

Oxygen Abundances in Nearby Dwarf Irregular Galaxies. *Evan D. Skillman, R. C. Kennicutt, & P. W. Hodge.* 347, 875, 194-C11 (1989)

KENNICUTT, R. C., JR. Giant H II Regions in M81. *Michele Kaufman, Frank N. Bash, R. C. Kennicutt, Jr., & P. W. Hodge.* 319, 61, 93-F7 (1987)

KENNICUTT, ROBERT C., JR. Stellar Spiral Arms in Smooth-armed Galaxies. *Robert C. Kennicutt, Jr., & B. Kevin Edgar.* 300, 132, 2-D12 (1986)

H II Regions and Star Formation in the Magellanic Clouds. *Robert C. Kennicutt, Jr., & Paul W. Hodge.* 306, 130, 82-F7 (1986)

Kinematic Detection of Supernova Remnants in Giant H II Regions. *You-Hua Chu & Robert C. Kennicutt, Jr.* 311, 85, 147-A4 (1986)

Properties of H II Region Populations in Galaxies. I. The First-ranked H II Regions. *Robert C. Kennicutt, Jr.* 334, 144, 155-G5 (1988)

Properties of H II Region Populations in Galaxies. II. The H II Region Luminosity Function. *Robert C. Kennicutt, Jr., B. Kevin Edgar, & Paul W. Hodge.* 337, 761, 28-D10 (1989)

The Star Formation Law in Galactic Disks. *Robert C. Kennicutt, Jr.* 344, 685, 142-G8 (1989)

The H II Regions of M101. I. An Atlas of 1264 Emission Regions. *Paul W. Hodge, Mark Gurwell, Jeffrey D. Goldader, & Robert C. Kennicutt, Jr.* 73, 661, 26-F13 (1990)

KENNY, DEBORAH. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

KENNY, S. Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 309, 114, 121-C4 (1986)

KENT, STEPHEN M. A Combined Optical/X-Ray Study of the Galaxy Cluster Abell 2256. *Daniel G. Fabricant, Stephen M. Kent, & Michael J. Kurtz.* 336, 77, 2-A5 (1989)

The Triaxial Bulge of the Sa Galaxy NGC 4845. *Ortwin E. Gerhard, Mario Vietri, & Stephen M. Kent.* 345, L33, 157-C12 (1989)

KENTER, A. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

KENYON, S. J. The Accretion Disk Limit Cycle Mechanism in GK Persei. *J. K. Cannizzo & S. J. Kenyon.* 309, L43, 125-F5 (1986)

Further Evidence for Disk Accretion in FU Orionis Objects. *L. Hartmann & S. J. Kenyon.* 312, 243, 3-E8 (1987)

High Spectral Resolution Infrared Observations of V1057 Cygni. *L. Hartmann & S. J. Kenyon.* 322, 393, 142-B6 (1987)

Spectral Energy Distributions of T Tauri Stars: Disk Flaring and Limits on Accretion. *S. J. Kenyon & L. Hartmann.* 323, 714, 162-E3 (1987)

Accretion Disk Models for FU Orionis and V1057 Cygni: Detailed Comparisons between Observations and Theory. *S. J. Kenyon, L. Hartmann, & R. Hewett.* 325, 231, 21-F2 (1988)

Pre–Main-Sequence Disk Accretion in Z Canis Majoris. *L. Hartmann, S. J. Kenyon, R. Hewett, S. Edwards, K. M. Strom, S. E. Strom, & J. R. Stauffer.* 338, 1001, 46-C5 (1989)

Ultraviolet Spectroscopy of Pre–Main-Sequence Accretion Disks. *S. J. Kenyon, L. Hartmann, C. L. Imhoff, & A. Cassatella.* 344, 925, 145-E9 (1989)

KENYON, SCOTT. How to Unveil a T Tauri Star. *Patrick Hartigan, Lee Hartmann, Scott Kenyon, Robert Hewett, & John Stauffer.* 70, 899, 32-D1 (1989)

KENYON, SCOTT J. Spectropscopic Observations of the Symbiotic Binary RW Hydrae. *Scott J. Kenyon & Telmo Fernández-Castro.* 316, 427, 54-F9 (1987)

The Spectral Evolution of Dwarf Nova Outbursts. *John K. Cannizzo & Scott J. Kenyon.* 320, 319, 111-E6 (1987)

The Detection of Photospheric Calcium in a DBA White Dwarf. *Scott J. Kenyon, Harry L. Shipman, Edward M. Sion, & Per A. Aannestad.* 328, L65, 74-F4 (1988)

Hydrogen and Calcium in DB White Dwarfs: A Case for Interstellar Accretion. *Edward M. Sion, Per A. Aannestad, & Scott J. Kenyon.* 330, L55, 96-G7 (1988)

A Detailed Study of the Lynds 1551 Star Formation Region. *John T. Stocke, Patrick M. Hartigan, Stephen E. Strom, Karen M. Strom, Edwin R. Anderson, Lee W. Hartmann, & Scott J. Kenyon.* 68, 229, 26-D1 (1988)

High-Resolution Infrared Spectra of FU Orionis Variables: Keplerian Rotation and Mass Loss. *Scott J. Kenyon & Lee Hartmann.* 342, 1134, 116-B6 (1989)

Optical Veiling, Disk Accretion, and the Evolution of T Tauri Stars. *Lee W. Hartmann & Scott J. Kenyon.* 349, 190, 16-C7 (1990)

On the Apparent Positions of T Tauri Stars in the H-R Diagram. *Scott J. Kenyon & Lee W. Hartmann.* 349, 197, 16-D1 (1990)

Further Evidence for Differential Rotation in V1057 Cygni. *Alan D. Welty, Stephen E. Strom, Karen M. Strom, Lee W. Hartmann, Scott J. Kenyon, Gary L. Grasdalen, & John R. Stauffer.* 349, 328, 17-G12 (1990)

An Atlas of Optical Spectra of DZ White Dwarfs and Related Objects. *Edward M. Sion, Scott J. Kenyon, & Per A. Aannestad.* 72, 707, 12-E5 (1990)

Correlations of Optical and Infrared Excesses in T Tauri Stars. *Patrick Hartigan, Lee Hartmann, Scott J. Kenyon, Stephen E. Strom, & Michael F. Skrutskie.* 354, L25, 80-C11 (1990)

KEPLER, S. O. An Independent Method for Determining the Age of the Universe. *D. E. Winget, C. J. Hansen, James Liebert, H. M. Van Horn, G. Fontaine, R. E. Nather, S. O. Kepler, & D. Q. Lamb.* 315, L77, 49-B1 (1987)

Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 351, 271, 41-D2 (1990)

An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather, D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine.* 357, 204, 113-E7 (1990)

Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object: Erratum. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 357, 291, 114-F6 (1990) (Orig. paper in 351, 271, 41-D2 (1990))

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

KERDRAON, ALAIN. Multiple-Wavelength Analysis of Energy Release during a Solar Flare: Thermal and Nonthermal Electron Populations. *Robert F. Willson, Karl-Ludwig Klein, Alain Kerdraon, Kenneth R. Lang, & Gerard Trottet.* 357, 662, 120-G1 (1990)

KERNER, WOLFGANG. On the Efficiency of Coronal Loop Heating by Resonant Absorption. *Stefaan Poedts, Marcel Goossens, & Wolfgang Kerner.* 360, 279, 148-D10 (1990)

KERR, F. J. Large-Scale Galactic Dust Morphology and Physical Conditions from *IRAS* Observations. *T. J. Sodroski, E. Dwek, M. G. Hauser, & F. J. Kerr.* 322, 101, 139-A10 (1987)

Dust Energetics in the Gas Phases of the Interstellar Medium: The Origin of the Galactic Large-Scale Far-Infrared Emission Observed by *IRAS*. *T. J. Sodroski, E. Dwek, M. G. Hauser, & F. J. Kerr.* 336, 762, 11-G2 (1989)

A Small Spiral Galaxy Discovered at 21 Centimeters in a Cosmic Void. *P. A. Henning & F. J. Kerr.* 347, L1, 189-B1 (1989)

KERR, FRANK J. Searching at 21 Centimeters for Galaxies behind the Milky Way. *Frank J. Kerr & Patricia A. Henning.* 320, L99, 121-C2 (1987)

KERTZMAN, M. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

KERTZMAN, M. P. Abundances of Ultraheavy Elements in the Cosmic Radiation: Results from *HEAO 3*. *W. R. Binns, T. L. Garrard, P. S. Gibner, M. H. Israel, M. P. Kertzman, J. Klarmann, B. J. Newport, E. C. Stone, & C. J. Waddington.* 346, 997, 179-E1 (1989)

KESTEVEN, M. J. The Parkes-Tidbinbilla Interferometer. *R. P. Norris, M. J. Kesteven, K. J. Wellington, & M. J. Batty.* 67, 85, 11-D1 (1988)

Symmetry of the Radio Emission from Two High-Latitude Supernova Remnants, G296.5+10.0 and G324.7+14.6 (SN 1006). *R. S. Roger, D. K. Milne, M. J. Kesteven, K. J. Wellington, & R. F. Haynes.* 332, 940, 134-F7 (1988)

Milliarcsecond Observations of 12 GHz Methanol Masers. *W. H. McCutcheon, K. J. Wellington, R. P. Norris, J. L. Caswell, M. J. Kesteven, J. E. Reynolds, & R.-S. Peng.* 333, L79, 152-E11 (1988)

The Proper Motion of the Vela Pulsar. *M. Bailes, R. N. Manchester, M. J. Kesteven, R. P. Norris, & J. E. Reynolds.* 343, L53, 132-C5 (1989)

Compact Radio Cores in Extremely Luminous Far-Infrared Galaxies. *R. P. Norris, D. A. Allen, R. A. Sramek, M. J. Kesteven, & E. R. Troup.* 359, 291, 139-F1 (1990)

KESTEVEN, MICHAEL J. Comparative Morphological Analysis of Puppis A at Radio, Infrared, Optical, and X-Ray Wavelengths. *Richard G. Arendt, Eli Dwek, Robert Petre, John R. Dickel, Robert S. Roger, Douglas K. Milne, & Michael J. Kesteven.* 350, 266, 28-C6 (1990)

KETO, E. R. CO Observations of Southern High-Latitude Clouds. *E. R. Keto & P. C. Myers.* 304, 466, 59-A2 (1986)

Collisions between High-Latitude Clouds: Theory Meets Observations. *E. R. Keto & J. C. Lattanzio.* 346, 184, 168-D3 (1989)

NH_3 Observations of Compressed Postshock Molecular Gas in Ionization-Shock Fronts around W33. *E. R. Keto & P. T. P. Ho.* 347, 349, 186-D3 (1989)

Collapse of Self-gravitating Protostellar Condensations in DR 21. *E. R. Keto.* 350, 722, 35-A8 (1990)

Radiative Transfer Modeling of Radio-Frequency Spectral Line Data: Accretion onto G10.6–0.4. *E. R. Keto.* 355, 190, 89-C7 (1990)

KETO, ERIC R. Temperature and Density Structure of the Collapsing Core of G10.6–0.4. *Eric R. Keto, Paul T. P. Ho, & Aubrey D. Haschick.* 318, 712, 88-F8 (1987)

Gravitational Collapse in Molecular Cloud Cores around Ultracompact H II Regions: Two Candidates. *Eric R. Keto, Paul T. P. Ho, & Mark J. Reid.* 323, L117, 164-C1 (1987)

The Observed Structure of the Accretion Flow around G10.6–0.4. *Eric R. Keto, Paul T. P. Ho, & Aubrey D. Haschick.* 324, 920, 13-E8 (1988)

KEYES, C. D. Atomic Structure Calculations and Nebular Diagnostics. *Stanley J. Czyzak, C. D. Keyes, & L. H. Aller.* 61, 159, 18-F1 (1986)

A Spectroscopic Survey of 51 Planetary Nebulae. *L. H. Aller & C. D. Keyes.* 65, 405, 34-A1 (1987)

KEYES, CHARLES D. Spectrum and Chemical Analysis of the Double-Ring Planetary Nebula IC 1297. *Lawrence H. Aller, Charles D. Keyes, & Walter A. Feibelman.* 311, 930, 158-A10 (1986)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 320, 159, 109-F12 (1987)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds: Erratum. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 326, 1040, 45-A9 (1988) (Orig. paper in 320, 159, 109-F12 (1987))

An Extremely Carbon-poor Planetary Nebula in the Small Magellanic Cloud. *Stephen J. Meatheringham, Stephen P. Maran, Theodore P. Stecher, Andrew G. Michalitsianos, Theodore R. Gull, Lawrence H. Aller, & Charles D. Keyes.* 361, 101, 158-C5 (1990)

KHALIULLIN, KH. F. Stratification of the Extended Atmosphere of the Wolf-Rayet Component of V444 Cygni: Erratum. *Joel A. Eaton, A. M. Cherepashchuk, & Kh. F. Khaliullin.* 334, 1076, 168-D10 (1988) (Orig. paper in 297, 266, 103-A3 (1985))

KHAN, F. $1s^2\ {}^1S$–$1s\ np\ {}^1P$ Transitions of the Helium Isoelectronic Sequence Members Up to $Z = 30$. *F. Khan, G. S. Khandelwal, & J. W. Wilson.* 329, 493, 80-E5 (1988)

An Asymptotic Expression for the Dipole Oscillator Strength for Transitions of the He Sequence. *G. S. Khandelwal, F. Khan, & J. W. Wilson.* 336, 504, 7-D10 (1989)

KHAN, IFFAT R. *IRAS* Observations of Galaxies in the Virgo Cluster Area. *George Helou, Iffat R. Khan, Ladan Malek, & Lisa Boehmer.* 68, 151, 25-C1 (1988)

KHANDELWAL, G. S. $1s^2\ {}^1S$–$1s\ np\ {}^1P$ Transitions of the Helium Isoelectronic Sequence Members Up to $Z = 30$. *F. Khan, G. S. Khandelwal, & J. W. Wilson.* 329, 493, 80-E5 (1988)

An Asymptotic Expression for the Dipole Oscillator Strength for Transitions of the He Sequence. *G. S. Khandelwal, F. Khan, & J. W. Wilson.* 336, 504, 7-D10 (1989)

KHARE, PUSHPA. Absorption Lines at $z > 2.3$ in Spectra of Quasi-stellar Objects. *Pushpa Khare, Donald G. York, & Richard Green.* 347, 627, 191-A7 (1989)

KHEDIM, A. Current Density Effects and the Importance of Charge Transfer Processes in the Radiolysis of Methane: Astrophysical Implications. *N. J. Sack, R. Schuster, A. Hofmann, A. Khedim, & R. Koppmann.* 360, 305, 148-G1 (1990)

KHOKHLOVA, V. L. Distribution of Chemical Elements over the Surface of the Magnetic Ap Star Theta Aurigae. *V. L. Khokhlova, J. B. Rice, & W. H. Wehlau.* 307, 768, 105-D1 (1986)

KIANG, TAO. Apparent Velocities of Sources Moving in the Gravitational Field of a Kerr Black Hole. *Shou-ping Xiang, Tao Kiang, & Jia-lu Zhang.* 330, 168, 91-G7 (1988)

KIDDER, K. M. Detection of Trace Helium in G104-27, a 26,000 K DA White Dwarf. *J. B. Holberg, K. M. Kidder, & F. Wesemael.* 365, L77, 219-E7 (1990)

KIDDER, KENNETH. A Compact Planetary Nebula around the Hot White Dwarf EGB 6/PG 0950+139. *James Liebert, Richard Green, Howard E. Bond, J. B. Holberg, F. Wesemael, Thomas A. Fleming, & Kenneth Kidder.* 346, 251, 169-C3 (1989)

KIDGER, MARK R. CCD Monitoring of the X-Ray Variable Quasar OX 169. *Mark R. Kidger.* 336, L9, 8-C6 (1989)

KIDMAN, RUSSELL B. Pulsations of White Dwarf Stars with Thick Hydrogen or Helium Surface Layers. *Arthur N. Cox, Sumner G. Starrfield, Russell B. Kidman, & W. Dean Pesnell.* 317, 303, 67-B14 (1987)

Oscillations of Solar Models with Internal Element Diffusion. *Arthur N. Cox, Joyce A. Guzik, & Russell B. Kidman.* 342, 1187, 116-F4 (1989)

KIEDA, D. B. A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

A Measurement of the Cosmic-Ray Primary Composition between 3×10^{13} and 3×10^{15} eV Using Underground Muons. *D. Cebula, S. C. Corbató, T. Daily, D. B. Kieda, K. Lande, C. K. Lee, & M. L. Cherry.* 358, 637, 131-D5 (1990)

KIELCZEWSKA, D. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

KIFUNE, T. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

KIGUCHI, MASAYOSHI. The Equilibria of Rotating Isothermal Clouds. *Masayoshi Kiguchi, Shinji Narita, Shoken M. Miyama, & Chushiro Hayashi.* 317, 830, 75-B5 (1987)

KIHARA, K. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

KII, T. X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

KII, TSUNEO. Dust-Grain Scattering of X-Rays Observed during the Lunar Occultation of a Transient X-Ray Source near the Galactic Center. *Kazuhisa Mitsuda, Toshiaki Takeshima, Tsuneo Kii, & Nobuyuki Kawai.* 353, 480, 70-A6 (1990)

KIKUCHI, S. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G.*

Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller. 313, 662, 24-A12 (1987)

KILKENNY, D. Model Atmosphere Analysis of the DZ White Dwarf K789–37. *D. Koester, G. Wegner, & D. Kilkenny.* 350, 329, 29-B1 (1990)

KILLEEN, N. E. B. The Radio Galaxy IC 4296 (PKS 1333–22). I. Multifrequency Very Large Array Observations. *N. E. B. Killeen, G. V. Bicknell, & R. D. Ekers.* 302, 306, 31-D11 (1986)

The Radio Galaxy IC 4296 (PKS 1333–33). II. Spectroscopy, Surface Photometry, X-Ray Imaging, and Infrared Photometry. *N. E. B. Killeen, G. V. Bicknell, & D. Carter.* 309, 45, 120-D14 (1986)

The Radio Galaxy IC 4296 (PKS 1333–33). III. Interpretation of the Radio, Optical, and X-Ray Data. *N. E. B. Killeen & G. V. Bicknell.* 324, 198, 3-C7 (1988)

The Mass Distribution of NGC 1399 from Optical and X-Ray Surface Photometry. *N. E. B. Killeen & G. V. Bicknell.* 325, 165, 20-G14 (1988)

The Thermally Confined Radio Source in NGC 1399. *N. E. B. Killeen, G. V. Bicknell, & R. D. Ekers.* 325, 180, 21-B1 (1988)

The Stellar Dynamics of NGC 1399. *G. V. Bicknell, D. Carter, N. E. B. Killeen, & T. E. G. Bruce.* 336, 639, 10-D6 (1989)

Analysis of Zeeman Effect Data in Radio Astronomy. *R. J. Sault, N. E. B. Killeen, J. Zmuidzinas, & R. Loushin.* 74, 437, 36-D5 (1990)

KILLIAN, T. C. Laboratory Detection of Propadienylidene, H_2CCC. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, T. C. Killian, & P. Thaddeus.* 364, L53, 205-E13 (1990)

Laboratory Detection of a Second Carbon Chain Carbene: Butatrienylidene, H_2CCCC. *T. C. Killian, J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, & P. Thaddeus.* 365, L89, 219-F11 (1990)

KILMARTIN, PAMELA M. V677 Centauri: Overcontact and Completely Eclipsing but A-Type or W-Type? *Pamela M. Kilmartin, David H. Bradstreet, & Robert H. Koch.* 319, 334, 96-E12 (1987)

KIM, D.-W. Interstellar Dust in Shapley-Ames Elliptical Galaxies. *M. Jura, D.-W. Kim, G. R. Knapp, & P. Guhathakurta.* 312, L11, 7-A13 (1987)

H I Observations of the Elliptical Galaxies NGC 2974 and NGC 5018. *D.-W. Kim, P. Guhathakurta, J. H. van Gorkom, M. Jura, & G. R. Knapp.* 330, 684, 100-A8 (1988)

Discovery of CO Emission from NGC 1275. *B. Lazareff, A. Castets, D.-W. Kim, & M. Jura.* 336, L13, 8-C9 (1989)

Interstellar Matter in Early-Type Galaxies. III. Radio Emission and Star Formation. *D. E. P. Walsh, G. R. Knapp, J. M. Wrobel, & D.-W. Kim.* 337, 209, 19-G9 (1989)

Interstellar Matter in Early-Type Galaxies. I. IRAS Flux Densities. *G. R. Knapp, P. Guhathakurta, D.-W. Kim, & M. Jura.* 70, 329, 23-B1 (1989)

KIM, DONG-WOO. Interstellar Matter in Early-Type Galaxies: Optical Observations. *Dong-Woo Kim.* 346, 653, 175-E6 (1989)

KIM, HO-IL. *BV* Light Curve Analyses of Algol. *Ho-Il Kim.* 342, 1061, 115-C7 (1989)

KIM, K.-T. The Halo and Magnetic Field of the Coma Cluster of Galaxies. *K.-T. Kim, P. P. Kronberg, P. E. Dewdney, & T. L. Landecker.* 355, 29, 87-D1 (1990)

KIM, S. B. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

KIM, S. J. H_3^+ Fundamental Band in Jupiter's Auroral Zones at High Resolution from 2400 to 2900 Inverse Centimeters. *J.-P. Maillard, P. Drossart, J. K. G. Watson, S. J. Kim, & J. Caldwell.* 363, L37, 193-F1 (1990)

KIM, SOON-WOOK. Time-dependent X-Ray Emission from Unstable Accretion Disks around Black Holes. *Shin Mineshige, Soon-Wook Kim, & J. Craig Wheeler.* 358, L5, 127-A11 (1990)

KIM, Y. E. Solar Flare γ-Ray Line Shapes. *C. Werntz, F. L. Lang, & Y. E. Kim.* 73, 349, 22-E5 (1990)

KIM, Y. H. The Ice Band in IRAS 09371+1212. *T. R. Geballe, Y. H. Kim, R. F. Knacke, & Keith S. Noll.* 326, L65, 46-C5 (1988)

An Upper Limit to the Acetylene Abundance toward BN in the Orion Molecular Cloud. *R. F. Knacke, Y. H. Kim, & W. M. Irvine.* 345, 265, 152-D5 (1989)

KINDL, E. 1343.4+2640: A Close Quasar Pair. *David Crampton, A. P. Cowley, P. Hickson, E. Kindl, R. Mark Wagner, J. Anthony Tyson, & Craig Gullixson.* 330, 184, 92-A9 (1988)

KINDL, ENRICO. Discordant Redshifts in Compact Groups of Galaxies. *Paul Hickson, Enrico Kindl, & John P. Huchra.* 329, L65, 89-B8 (1988)

Morphology of Galaxies in Compact Groups. *Paul Hickson, Enrico Kindl, & John P. Huchra.* 331, 64, 106-F6 (1988)

A Photometric Catalog of Compact Groups of Galaxies. *Paul Hickson, Enrico Kindl, & Jason R. Auman.* 70, 687, 29-B1 (1989)

KING, A. R. The Evolution of Magnetic Cataclysmic Variables. *J. M. Hameury, A. R. King, J.-P. Lasota, & H. Ritter.* 316, 275, 53-A9 (1987)

The Period Distribution of Cataclysmic Variables. *J. M. Hameury, A. R. King, J. P. Lasota, & H. Ritter.* 327, L77, 61-D10 (1988)

The Magnetic Field of the Intermediate Polar BG Canis Minoris. *G. Chanmugam, J. Frank, A. R. King, & J.-P. Lasota.* 350, L13, 31-B11 (1990)

KING, ANDREW R. Black Hole X-Ray Transients. *Jean-Marie Hameury, Andrew R. King, & Jean-Pierre Lasota.* 353, 585, 71-B11 (1990)

KING, CHRISTOPHER R. The Age of the Large Magellanic Cloud Cluster NGC 2193. *G. S. Da Costa, Christopher R. King, & J. R. Mould.* 321, 735, 132-E6 (1987)

KING, DAVID L. PG 0832+676: An Apparently Normal B1 V Star 18 Kiloparsecs above the Galactic Plane. *Paul J. F. Brown, Philip L. Dufton, Francis P. Keenan, Alec Boksenberg, David L. King, & Max Pettini.* 339, 397, 55-A2 (1989)

KING, IVAN R. A Preliminary Survey of Collapsed Cores in Globular Clusters. *S. Djorgovski & Ivan R. King.* 305, L61, 80-C13 (1986)

The Deep Luminosity Function of the Globular Cluster M30. *Giampaolo Piotto, Ivan R. King, Massimo Capaccioli, Sergio Ortolani, & S. Djorgovski.* 350, 662, 34-C14 (1990)

KINGSTON, A. E. S V Line Ratios in the Sun. *P. L. Dufton, A. Hibbert, F. P. Keenan, A. E. Kingston, & G. A. Doschek.* 300, 448, 6-A4 (1986)

The Derivation of Solar Coronal Electron Temperature from the 1 ^1S–n $^1P/1^1S$–2^1P Emission-Line Ratios in Mg XI. *F. P. Keenan, A. E. Kingston, & D. L. McKenzie.* 303, 486, 46-D4 (1986)

Ne IX Emission-Line Ratios in Solar Active Regions. *F. P. Keenan, D. L. McKenzie, S. M. McCann, & A. E. Kingston.* 318, 926, 91-B2 (1987)

Electron Density Diagnostics for Late-Type Stellar Atmospheres. *F. P. Keenan, P. L. Dufton, K. M. Aggarwal, & A. E. Kingston.* 324, 1068, 15-C3 (1988)

Solar Si III Line Ratios from the High-Resolution Telescope and Spectrograph on Board *Spacelab 2*: The Effects of Non-Maxwellian Electron Distribution Function. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 340, 1135, 82-D1 (1989)

Fe XV Line Ratios in the Sun: Discrepancies between Theory and Observations. *P. L. Dufton, A. E. Kingston, & K. G. Widing.* 353, 323, 66-C1 (1990)

Interspecies Emission-Line Ratios as Electron Density Diagnostics for Late-Type Stellar Atmospheres. *F. P. Keenan, P. L. Dufton, & A. E. Kingston.* 353, 636, 71-G1 (1990)

KINNEY, A. L. Variability of Lyman-Alpha and the Ultraviolet Continuum of 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, & A. L. Kinney.* 301, 698, 23-C3 (1986)

The Ultraviolet Spectra of Intermediate-Redshift Quasars. II. *A. L. Kinney, P. J. Huggins, A. E. Glassgold, & J. N. Bregman.* 314, 145, 29-E7 (1987)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

The Lyman Edge Test of the Quasar Emission Mechanism. *R. R. J. Antonucci, A. L. Kinney, & H. C. Ford.* 342, 64, 101-G3 (1989)

A Study of the Baldwin Effect in the *IUE* Data Set. *A. L. Kinney, A. R. Rivolo, & A. P. Koratkar.* 357, 338, 116-G1 (1990)

KINSEL, W. Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

KINSLOW, SCOTT. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

KINZEL, WAYNE M. HCN Production from Comet Halley. *F. Peter Schloerb, Wayne M. Kinzel, Daryl A. Swade, & William M. Irvine.* 310, L55, 138-D12 (1986)

KINZER, R. L. *SMM* Detection of Diffuse Galactic 511 keV Annihilation Radiation. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Messina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 326, 717, 41-E1 (1988)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation: Erratum. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Massina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 331, 1078, 120-G4 (1988) (Orig. paper in 326, 717, 41-E1 (1988))

Search for Doppler-shifted Gamma-Ray Emission from SS 433 Using the *SMM* Spectrometer. *B. J. Geldzahler, G. H. Share, R. L. Kinzer, J. Magura, E. L. Chupp, & E. Rieger.* 342, 1123, 116-A5 (1989)

Measurement of the 0.3–8.5 MeV Galactic Gamma-Ray Spectrum from the Galactic Center Direction. *M. J. Harris, G. H. Share, M. D. Leising, R. L. Kinzer, & D. C. Messina.* 362, 135, 170-G1 (1990)

KIPLINGER, A. L. Solar Gradual Hard X-Ray Bursts and Associated Phenomena. *E. W. Cliver, B. R. Dennis, A. L. Kiplinger, S. R. Kane, D. F. Neidig, N. R. Sheeley, Jr., & M. J. Koomen.* 305, 920, 79-A12 (1986)

KIPLINGER, ALAN L. The Spatial, Spectral, and Temporal Character of the Hard X-Ray Flare of 1982 February 3. *Nariaki Nitta, Alan L. Kiplinger, & Keizo Kai.* 337, 1003, 31-C2 (1989)

X-Ray Observations of Two Short but Intense Solar Flares. *Nariaki Nitta, Brian R. Dennis, & Alan L. Kiplinger.* 353, 313, 66-B5 (1990)

Hα Spectra of Dynamic Chromospheric Processes in Five Well-observed X-Ray Flares. *Richard C. Canfield, Alan L. Kiplinger, Matthew J. Penn, & Jean-Pierre Wülser.* 363, 318, 186-B1 (1990)

KIRÁLY, P. TeV and PeV Gamma-Ray Emission from Accreting Pulsars. *P. Király & P. Mészáros.* 333, 719, 148-B1 (1988)

KIRHAKOS, S. D. A Newly Discovered *IRAS* QSO Close to the Galactic Plane. *Michael A. Strauss, S. D. Kirhakos, & Amos Yahil.* 332, L45, 137-A10 (1988)

KIRK, J. G. On the Acceleration of Charged Particles at Relativistic Shock Fronts. *J. G. Kirk & P. Schneider.* 315, 425, 45-D1 (1987)

Particle Acceleration at Shocks: A Monte Carlo Method. *J. G. Kirk & P. Schneider.* 322, 256, 140-F2 (1987)

Pitch-Angle Anisotropy of Low-Energy Ions at Interplanetary Shocks. *J. G. Kirk.* 324, 557, 7-D1 (1988)

Cosmic-Ray Hydrodynamics at Relativistic Shocks. *J. G. Kirk & G. M. Webb.* 331, 336, 110-A1 (1988)

KIRK, JOHN G. Electron Injection by Relativistic Protons in Active Galactic Nuclei. *Marek Sikora, John G. Kirk, Mitchell C. Begelman, & Peter Schneider.* 320, L81, 121-B1 (1987)

Fermi Acceleration at Shocks with Arbitrary Velocity Profiles. *Peter Schneider & John G. Kirk.* 323, L87, 158-G1 (1987)

Cosmic-Ray Transport in Accelerating Flows. *John G. Kirk, Reinhard Schlickeiser, & Peter Schneider.* 328, 269, 65-A1 (1988)

Shock-Drift Particle Acceleration in Superluminal Shocks: A Model for Hot Spots in Extragalactic Radio Sources. *Mitchell C. Begelman & John G. Kirk.* 353, 66, 62-G9 (1990)

KIRK, R. L. Hydromagnetic Constraints on Deep Zonal Flow in the Giant Planets. *R. L. Kirk & D. J. Stevenson.* 316, 836, 61-C4 (1987)

KIRKPATRICK, J. DAVY. The Companion to Gliese 569. *Todd J. Henry & J. Davy Kirkpatrick.* 354, L29, 80-D2 (1990)

KIRSHNER, R. P. The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault.* 317, 355, 67-F14 (1987)

The Interstellar Medium toward Supernova 1987A. *A. K. Dupree, R. P. Kirshner, G. E. Nassiopoulos, J. C. Raymond, & G. Sonneborn.* 320, 597, 116-B11 (1987)

Narrow Ultraviolet Emission Lines from SN 1987A: Evidence for CNO Processing in the Progenitor. *C. Fransson, A. Cassatella, R. Gilmozzi, R. P. Kirshner, N. Panagia, G. Sonneborn, & W. Wamsteker.* 336, 429, 6-E1 (1989)

KIRSHNER, ROBERT P. Dynamics of the Elliptical Galaxy NGC 7097 Measured from Gas and Stars. *Nelson Caldwell, Robert P. Kirshner, & Douglas O. Richstone.* 305, 136, 68-D10 (1986)

The Late-Time Spectrum of the Type II Supernova 1980k. *Alan Uomoto & Robert P. Kirshner.* 308, 685, 116-D11 (1986)

A Spectroscopic Survey of Case Emission-Line Galaxies in the Direction of the Bootes Void. *William G. Tifft, Robert P. Kirshner, Stephen A. Gregory, & J. Ward Moody.* 310, 75, 132-G10 (1986)

A Survey of the Bootes Void. *Robert P. Kirshner, Augustus Oemler, Jr., Paul L. Schechter, & Stephen A. Shectman.* 314, 493, 35-A2 (1987)

Emission-Line Galaxies in the Bootes Void. *J. Ward Moody, Robert P. Kirshner, Gordon M. MacAlpine, & Stephen A. Gregory.* 314, L33, 39-A13 (1987)

High-Velocity Emission in Young Supernova Remnants: SN 1006 and SN 1572. *Robert P. Kirshner, P. Frank Winkler, & Roger A. Chevalier.* 315, L135, 49-F3 (1987)

Ultraviolet Observations of SN 1987A. *Robert P. Kirshner, George Sonneborn, D. Michael Crenshaw, & George E. Nassiopoulos.* 320, 602, 116-C2 (1987)

The Progenitor of SN 1987A: Spatially Resolved Ultraviolet Spectroscopy of the Supernova Field. *George Sonneborn, Bruce Altner, & Robert P. Kirshner.* 323, L35, 158-C7 (1987)

Spectra of Galaxies in Clusters. I. The Butcher-Oemler Effect. *Michael V. Newberry, Robert P. Kirshner, & Todd A. Boroson.* 335, 629, 179-D4 (1988)

The Penultimate Supernova in the Large Magellanic Cloud: SNR 0540−69.3. *Robert P. Kirshner, Jon A. Morse, P. Frank Winkler, & William P. Blair.* 342, 260, 104-B1 (1989)

Model Atmospheres for SN 1987A and the Distance to the Large Magellanic Cloud. *Ronald G. Eastman & Robert P. Kirshner.* 347, 771, 193-A3 (1989)

An Atlas of Confirmed and Candidate Supernova Remnants in M33. *Knox S. Long, William P. Blair, Robert P. Kirshner, & P. Frank Winkler.* 72, 61, 2-B1 (1990)

Spectra of Galaxies in Clusters. II. Models for the Spectra of Postburst and Stripped Galaxies. *Michael V. Newberry, Todd A. Boroson, & Robert P. Kirshner.* 350, 585, 33-D11 (1990)

KISVARSÁNYI, ERIKA G. Cepheid Radial Velocity Curves Revisited. *Géza Kovács, Erika G. Kisvarsányi, & J. Robert Buchler.* 351, 606, 47-F1 (1990)

KITAMOTO, S. Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

KITAMOTO, SHUNJI. An X-Ray Outburst from 4U 0115+63 in 1987 February/March. *Hiroshi Tsunemi & Shunji Kitamoto.* 334, L21, 161-C5 (1988)

Discovery of a Bright X-Ray Nova, GS 2000+25. *Hiroshi Tsunemi, Shunji Kitamoto, Sadanori Okamura, & Diane Roussel-Dupré.* 337, L81, 32-C1 (1989)

Outburst, Identification, and X-Ray Light Curve of GS 1354−64 (=MX 1353−64?, Centaurus X-2?). *Shunji Kitamoto, Hiroshi Tsunemi, Holger Pedersen, Sergio A. Ilovaisky, & Michiel van der Klis.* 361, 590, 165-D3 (1990)

KITAMURA, Y. Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews,*

Y. Minh, S. Saito, N. Ukita, & S. Yamamoto. 342, 871, 113-B5 (1989)

High-Resolution Mapping of the Bipolar Outflow in NGC 2071: Evidence for a Wind-driven Molecular Outflow. *Y. Kitamura, R. Kawabe, T. Yamashita, & M. Hayashi.* 363, 180, 184-D1 (1990)

KJELDSETH-MOE, O. A New Sunspot Umbral Model and Its Variation with the Solar Cycle. *P. Maltby, E. H. Avrett, M. Carlsson, O. Kjeldseth-Moe, R. L. Kurucz, & R. Loeser.* 306, 284, 84-D9 (1986)

Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)

KLAPDOR, H. V. Evidence for a Nonvanishing Energy Density of the Vacuum (or Cosmological Constant). *H. V. Klapdor & K. Grotz.* 301, L39, 27-B1 (1986)

KLARMANN, J. Cosmic-Ray Energy Spectra between 10 and Several Hundred GeV per Atomic Mass Unit for Elements from $_{18}$Ar to $_{28}$Ni: Results from *HEAO 3. W. R. Binns, T. L. Garrard, M. H. Israel, Michael D. Jones, M. P. Kamionkowski, J. Klarmann, E. C. Stone, & C. J. Waddington.* 324, 1106, 15-F3 (1988)

Abundances of Ultraheavy Elements in the Cosmic Radiation: Results from *HEAO 3. W. R. Binns, T. L. Garrard, P. S. Gibner, M. H. Israel, M. P. Kertzman, J. Klarmann, B. J. Newport, E. C. Stone, & C. J. Waddington.* 346, 997, 179-E1 (1989)

KLATT, C. Phase Modulation of the Sun's z Oscillations. *W. L. H. Shuter & C. Klatt.* 301, 471, 19-A6 (1986)

Velocity Waves in 21 Centimeter Self-Absorption toward the Taurus Molecular Complex. *W. L. H. Shuter, R. L. Dickman, & C. Klatt.* 322, L103, 152-D8 (1987)

KLEBE, DIMITRI. Infrared Polarimetry of Galaxies. I. Infrared Luminous Galaxies. *Terry Jay Jones & Dimitri Klebe.* 341, 707, 94-B2 (1989)

KLEBE, DIMITRI I. Photometry of Variable AFGL Sources. *Terry Jay Jones, C. O. Bryja, Robert D. Gehrz, Thomas E. Harrison, Joni J. Johnson, Dimitri I. Klebe, & Geoffrey F. Lawrence.* 74, 785, 41-E11 (1990)

KLEBESADEL, R. W. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory. G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806−20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

Directivity of 100 keV–1 MeV Photon Sources in Solar Flares. *S. R. Kane, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 326, 1017, 44-F8 (1988)

A 2.2 Second Period in the 1984 August 3 Gamma-Ray Burst. *C. Kouveliotou, U. D. Desai, T. L. Cline, B. R. Dennis, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 330, L101, 104-G1 (1988)

Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

KLECKER, B. The Heavy-Ion Compositional Signature in ^{3}He-rich Solar Particle Events. *G. M. Mason, D. V. Reames, B. Klecker, D. Hovestadt, & T. T. von Rosenvinge.* 303, 849, 51-G1 (1986)

The Mean Ionic Charge of Silicon in ^{3}He-rich Solar Flares. *A. Luhn, B. Klecker, D. Hovestadt, & E. Möbius.* 317, 951, 76-E2 (1987)

A Multispacecraft Study of the Injection and Transport of Solar Energetic Particles. *J. Beeck, G. M. Mason, D. C. Hamilton, G. Wibberenz, H. Kunow, D. Hovestadt, & B. Klecker.* 322, 1052, 151-D14 (1987)

Impulsive Acceleration and Scatter-free Transport of $\sim$ 1 MeV per Nucleon Ions in ^{3}He-rich Solar Particle Events. *G. M. Mason, C. K. Ng, B. Klecker, & G. Green.* 339, 529, 56-D5 (1989)

Seed Population for $\sim$1 MeV per Nucleon Heavy Ions Accelerated by Interplanetary Shocks. *L. C. Tan, G. M. Mason, B. Klecker, & D. Hovestadt.* 345, 572, 156-B7 (1989)

KLEIN, J. R. The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

KLEIN, K.-L. Meter–Decimeter and Microwave Radio Observations of Solar Flares. *M. Pick, K.-L. Klein, & G. Trottet.* 73, 165, 19-G13 (1990)

KLEIN, KARL-LUDWIG. A Young Radio-emitting Magnetic B Star in the Rho Ophiuchi Cloud. *Philippe André, Thierry Montmerle, Eric D. Feigelson, Peter C. Stine, & Karl-Ludwig Klein.* 335, 940, 183-A10 (1988)

Multiple-Wavelength Analysis of Energy Release during a Solar Flare: Thermal and Nonthermal Electron Populations. *Robert F. Willson, Karl-Ludwig Klein, Alain Kerdraon, Kenneth R. Lang, & Gerard Trottet.* 357, 662, 120-G1 (1990)

KLEIN, LEWIS. Partial Redistribution in High-Density, Highly Ionized Plasmas. *B. Talin, R. Stamm, V. P. Kaftandjian, & Lewis Klein.* 322, 804, 148-E12 (1987)

KLEIN, RICHARD I. Star Formation in Colliding Gas Flows. *James H. Hunter, Jr., Maxwell T. Sandford II, Rodney W. Whitaker, & Richard I. Klein.* 305, 309, 70-D4 (1986)

Formation of OB Clusters: Radiation-driven Implosion? *Paul T. P. Ho, Richard I. Klein, & Aubrey D. Haschick.* 305, 714, 76-F3 (1986)

Radiation Gas Dynamics of Polar Cap Accretion onto Magnetized Neutron Stars: Basic Theory. *Jonathan Arons, Richard I. Klein, & Susan M. Lea.* 312, 666, 10-C1 (1987)

Time-dependent Calculations of X-Ray and γ Reprocessing. *Lynn R. Cominsky, Richard A. London, & Richard I. Klein.* 315, 162, 41-F14 (1987)

Continuum Radiative Transfer in X-Ray Pulsar Accretion Columns. I. Numerical Methods. *David J. Burnard, Richard I. Klein, & Jonathan Arons.* 324, 1001, 14-E4 (1988)

Continuum Radiative Transfer in the Polar Columns of Accretion Powered Pulsars: Incoherent Scattering. *David J. Burnard, Richard I. Klein, & Jonathan Arons.* 349, 262, 17-B6 (1990)

Iron K-Shell Emission from NGC 1068. *David L. Band, Richard I. Klein, John I. Castor, & J. K. Nash.* 362, 90, 170-C1 (1990)

KLEIN, U. A Statistical Analysis of the *Einstein* Normal Galaxy Sample. III. Radio and X-Ray Properties of Elliptical and S0 Galaxies. *G. Fabbiano, U. Klein, G. Trinchieri, & R. Wielebinski.* 312, 111, 2-C1 (1987)

KLEINER, S. C. Small-Scale Structure of the Taurus Molecular Clouds: Turbulence in Heiles' Cloud 2. *S. C. Kleiner & R. L. Dickman.* 312, 837, 12-B2 (1987)

KLEINMAN, S. J. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

KLEINMANN, S. G. Spectra of Late-Type Standard Stars in the Region 2.0–2.5 Microns. *S. G. Kleinmann & D. N. B. Hall.* 62, 501, 38-A4 (1986)

Radial Velocities of Late-Type Stars in the Galactic Center. *K. Sellgren, D. N. B. Hall, S. G. Kleinmann, & N. Z. Scoville.* 317, 881, 75-F5 (1987)

A Study of a Flux-limited Sample of IRAS Galaxies. *Beverly J. Smith, S. G. Kleinmann, J. P. Huchra, & F. J. Low.* 318, 161, 80-F5 (1987)

A Flux-limited Sample of Galactic Carbon Stars. *M. J. Claussen, S. G. Kleinmann, R. R. Joyce, & M. Jura.* 65, 385, 33-F1 (1987)

Infrared Color-selected Quasars and Seyfert 1 Galaxies. *F. J. Low, J. P. Huchra, S. G. Kleinmann, & R. M. Cutri.* 327, L41, 61-B2 (1988)

The Properties and Environment of the Giant, Infrared-Luminous Galaxy IRAS 09104+4109. *S. G. Kleinmann, Donald Hamilton, W. C. Keel, C. G. Wynn-Williams, S. A. Eales, E. E. Becklin, & K. D. Kuntz.* 328, 161, 63-F11 (1988)

Molecular and Ionized Gas in the Peculiar Galaxy NGC 2146. *Judith S. Young, M. J. Claussen, S. G. Kleinmann, Vera C. Rubin, & Nick Scoville.* 331, L81, 121-D4 (1988)

Hidden H II Regions in Infrared-bright Galaxies. *Judith S. Young, S. G. Kleinmann, & L. E. Allen.* 334, L63, 169-B1 (1988)

High-Luminosity Carbon Stars in the Galactic Anticenter. *M. Jura, R. R. Joyce, & S. G. Kleinmann.* 336, 924, 14-A6 (1989)

The Properties of Infrared Color-selected Quasars. *F. J. Low, R. M. Cutri, S. G. Kleinmann, & J. P. Huchra.* 340, L1, 75-C6 (1989)

Dust-enshrouded Asymptotic Giant Branch Stars in the Solar Neighborhood. *M. Jura & S. G. Kleinmann.* 341, 359, 88-C1 (1989)

The Probable Dust Formation Episode around ρ Cassiopeiae. *M. Jura & S. G. Kleinmann.* 351, 583, 47-D1 (1990)

Mass-losing M Supergiants in the Solar Neighborhood. *M. Jura & S. G. Kleinmann.* 73, 769, 28-F5 (1990)

^{12}CO Emission from the Envelopes of Cool Stars in the Solar Neighborhood. *M. Margulis, D. J. Van Blerkom, R. L. Snell, & S. G. Kleinmann.* 361, 673, 166-D10 (1990)

Very Dusty Carbon-rich Asymptotic Giant Branch Stars between ~1 and ~2.5 Kiloparsecs from the Sun. *M. Jura & S. G. Kleinmann.* 364, 663, 204-D5 (1990)

KLEMKE, G. Searches for Narrow-Angle Anisotropies in the Primary Energy Range 0.1–10 TeV: Erratum. *O. C. Allkofer, W. D. Dau, H. Jokisch, G. Klemke, R. C. Uhr, G. Bella, & Y. Oren.* 305, 954, 79-D10 (1986) (Orig. paper in 291, 468, 40-A2 (1985))

KLEMOLA, A. R. Optical Survey of *IRAS* Fields in the Draco Cloud Region. *H. M. Johnson & A. R. Klemola.* 63, 701, 11-C8 (1987)

KLEPCZYNSKI, W. J. Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)

KLIMCHUK, J. A. Magnetic Shear. IV. Hale Regions 16740, 16815, and 16850. *R. Grant Athay, J. A. Klimchuk, H. P. Jones, & H. Zirin.* 303, 884, 52-C6 (1986)

The Magnetic and Velocity Structure Adjacent to Solar Active Regions. *R. Grant Athay & J. A. Klimchuk.* 318, 437, 83-F7 (1987)

A Numerical Study of the Nonlinear Thermal Stability of Solar Loops. *J. A. Klimchuk, S. K. Antiochos, & J. T. Mariska.* 320, 409, 112-D13 (1987)

Heating-related Flows in Cool Solar Loops. *J. A. Klimchuk & J. T. Mariska.* 328, 334, 65-G1 (1988)

Coronal Magnetic Fields Produced by Photospheric Shear. *J. A. Klimchuk, P. A. Sturrock, & W.-H. Yang.* 335, 456, 175-F11 (1988)

Force-free Magnetic Fields: Is There a "Loss of Equilibrium"? *J. A. Klimchuk & P. A. Sturrock.* 345, 1034, 163-D3 (1989)

Episodic Coronal Heating. *P. A. Sturrock, W. W. Dixon, J. A. Klimchuk, & S. K. Antiochos.* 356, L31, 103-D11 (1990)

KLIMCHUK, JAMES A. On the Large-Scale Dynamics and Magnetic Structure of Solar Active Regions. *James A. Klimchuk.* 323, 368, 157-B1 (1987)

Shear-induced Inflation of Coronal Magnetic Fields. *James A. Klimchuk.* 354, 745, 85-E1 (1990)

KLIMIS, GEORGE S. Effects of Electron Scattering on the Oscillations of an X-Ray Source. *Nikolaos D. Kylafis & George S. Klimis.* 323, 678, 162-B8 (1987)

KLINGLESMITH, D. A. A Palomar Observatory Sky Survey Atlas of Selected Molecular Clouds. *D. A. Klinglesmith & J. M. Hollis.* 64, 127, 18-F5 (1987)

KLINGLESMITH, DANIEL A., III. Deep *Einstein* X-Ray Imagery of the Small Magellanic Cloud. *Frederick C. Bruhweiler, Daniel A. Klinglesmith III, Theodore R. Gull, & Sabatino Sofia.* 317, 152, 65-E11 (1987)

KLOTZ, S. E. 5 GHz Radio Structure and Optical Identifications of Sources from the MG Survey. II. Maps and Finding Charts. *C. R. Lawrence, C. L. Bennett, J. N. Hewitt, G. I. Langston, S. E. Klotz, B. F. Burke, & K. C. Turner.* 61, 105, 18-A5 (1986)

KLUŹNIAK, W. On the Origin of Pulsed Emission from the Young Supernova Remnant SN 1987A. *M. Ruderman, W. Kluźniak, & J. Shaham.* 346, L77, 181-D1 (1989)

KLUŹNIAK, WŁODZIMIERZ. Redshifts Derived from Gamma-Ray Burst Spectra Are Inconclusive. *Włodzimierz Kluźniak.* 336, 367, 5-F10 (1989)

Determining the Properties of Accretion-Gap Neutron Stars. *Włodzimierz Kluźniak, Peter Michelson, & Robert V. Wagoner.* 358, 538, 130-C1 (1990)

KNACKE, R. F. Detection of Carbon Monoxide in Saturn. *Keith S. Noll, R. F. Knacke, T. R. Geballe, & A. T. Tokunaga.* 309, L91, 131-F3 (1986)

Observations of 3.2–3.6 Micron Emission Features in Comet Halley. *R. F. Knacke, T. Y. Brooke, & R. R. Joyce.* 310, L49, 138-D7 (1986)

The Origin and Vertical Distribution of Carbon Monoxide in Jupiter. *Keith S. Noll, R. F. Knacke, T. R. Geballe, & A. T. Tokunaga.* 324, 1210, 17-A1 (1988)

The Ice Band in IRAS 09371+1212. *T. R. Geballe, Y. H. Kim, R. F. Knacke, & Keith S. Noll.* 326, L65, 46-C5 (1988)

Evidence for Interstellar H_2O in the Orion Molecular Cloud. *R. F. Knacke, H. P. Larson, & Keith S. Noll.* 335, L27, 177-C6 (1988)

Spectroscopy of Emission Features near 3 Microns in Comet Wilson (1986l). *T. Y. Brooke, R. F. Knacke, T. C. Owen, & A. T. Tokunaga.* 336, 971, 14-E5 (1989)

Arsine in Saturn and Jupiter. *Keith S. Noll, T. R. Geballe, & R. F. Knacke.* 338, L71, 49-D9 (1989)

An Upper Limit to the Acetylene Abundance toward BN in the Orion Molecular Cloud. *R. F. Knacke, Y. H. Kim, & W. M. Irvine.* 345, 265, 152-D5 (1989)

KNAPP, G. R. Mass Loss from Evolved Stars. III. Mass Loss Rates for 50 Stars from CO $J = 1$–0 Observations: Erratum. *G. R. Knapp & Mark Morris.* 303, 521, 46-F12 (1986) (Orig. paper in 292, 640, 54-F7 (1985))

Molecules in Galaxies. III. The Virgo Cluster. *Antony A. Stark, G. R. Knapp, John Bally, Robert W. Wilson, Arno A. Penzias, & Harrison E. Rowe.* 310, 660, 141-B8 (1986)

Mass Loss from Evolved Stars. VI. Mass-Loss Mechanisms and Luminosity Evolution. *G. R. Knapp.* 311, 731, 155-F11 (1986)

Interstellar Dust in Shapley-Ames Elliptical Galaxies. *M. Jura, D.-W. Kim, G. R. Knapp, & P. Guhathakurta.* 312, L11, 7-A13 (1987)

Detection of H I Emission from the Circumstellar Envelope of Alpha Orionis. *P. F. Bowers & G. R. Knapp.* 315, 305, 43-C4 (1987)

Mass Loss from Evolved Stars. VII. OH Maser Shell Radii and Mass-Loss Rates for OH/IR Stars. *Nathan Netzer & G. R. Knapp.* 323, 734, 162-F12 (1987)

H I Observations of the Elliptical Galaxies NGC 2974 and NGC 5018. *D.-W. Kim, P. Guhathakurta, J. H. van Gorkom, M. Jura, & G. R. Knapp.* 330, 684, 100-A8 (1988)

Small-Scale Structure in the Interstellar Medium. I. Discovery of Very Small Molecular Clouds toward α Orionis. *G. R. Knapp & P. F. Bowers.* 331, 974, 119-F4 (1988)

Detection of H I Emission in the Circumstellar Envelope of Omicron Ceti (Mira). *P. F. Bowers & G. R. Knapp.* 332, 299, 126-D7 (1988)

Molecules in Galaxies. VI. Diffuse and Dense Cloud Contributions to the Large-Scale CO Emission of the Galaxy. *K. S. Polk, G. R. Knapp, A. A. Stark, & R. W. Wilson.* 332, 432, 127-G5 (1988)

CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)

Interstellar Matter in Early-Type Galaxies. III. Radio Emission and Star Formation. *D. E. P. Walsh, G. R. Knapp, J. M. Wrobel, & D.-W. Kim.* 337, 209, 19-G9 (1989)

Interstellar Matter in Early-Type Galaxies. I. IRAS Flux Densities. *G. R. Knapp, P. Guhathakurta, D.-W. Kim, & M. Jura.* 70, 329, 23-B1 (1989)

The CS Molecule in Diffuse Interstellar Clouds. *K. Drdla, G. R. Knapp, & E. F. van Dishoeck.* 345, 815, 160-G1 (1989)

A Very Fast Molecular Outflow from the Proto–Planetary Nebula CRL 618. *C. F. Gammie, G. R. Knapp, K. Young, T. G. Phillips, & E. Falgarone.* 345, L87, 165-C1 (1989)

A Study of OH/IR Stars and Planetary Nebula Formation. *P. F. Bowers & G. R. Knapp.* 347, 325, 186-B1 (1989)

H I Observations of Three *IRAS* Detected Elliptical Galaxies. *D. E. P. Walsh, J. H. van Gorkom, W. E. Bies, N. Katz, G. R. Knapp, & S. Wallington.* 352, 532, 57-F3 (1990)

KNEZEK, PATRICIA M. The Ratio of Molecular to Atomic Gas in Spiral Galaxies as a Function of Morphological Type. *Judith S. Young & Patricia M. Knezek.* 347, L55, 199-A9 (1989)

KNOBLOCH, E. On the Stability of Magnetized Rotating Jets: The Axisymmetric Case. *G. Bodo, R. Rosner, A. Ferrari, & E. Knobloch.* 341, 631, 93-A7 (1989)

KNÖLKER, M. On the Progagation of Compressive Waves in a Radiating Magnetized Fluid. *T. J. Bogdan & M. Knölker.* 339, 579, 57-A10 (1989)

KO, C. M. Cosmic-Ray–modified Stellar Winds. I. Solution Topologies and Singularities. *C. M. Ko & G. M. Webb.* 323, 657, 162-A1 (1987)

Cosmic-Ray–Modified Stellar Winds. II. A Perturbation Approach. *C. M. Ko & G. M. Webb.* 325, 296, 22-D2 (1988)

Cosmic-Ray–Modified Stellar Winds. III. A Numerical Iterative Approach. *C. M. Ko, J. R. Jokipii, & G. M. Webb.* 326, 761, 42-A3 (1988)

Intermittent Behavior of Galactic Dynamo Activities. *C. M. Ko & E. N. Parker.* 341, 828, 95-D7 (1989)

On the Stability of a Class of Isothermal, Magnetostatic Atmospheres. *G. M. Webb & C. M. Ko.* 342, 1142, 116-C1 (1989)

KO, CHUNG-MING. A Study of the Kinematic Dynamo Equation with Time-dependent Coefficients. *Chung-Ming Ko.* 360, 151, 147-A1 (1990)

KO, S. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)

A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

KO, YUAN-KUEN. Energized Winds. *David Eichler & Yuan-Kuen Ko.* 328, 179, 64-A2 (1988)

KOBAYASHI, H. High-Resolution Observations of CO from the Bipolar Nebula CRL 2688. *R. Kawabe, M. Ishiguro, T. Kasuga, K.-I. Morita, N. Ukita, H. Kobayashi, S. Okumura, E. Fomalont, & N. Kaifu.* 314, 322, 31-F1 (1987)

Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

KOBAYASHI, HIDEYUKI. Velocity Field in the Fragmented Molecular Cloud Core of W3: Evidence for Large-Scale Turbulence. *Masahiko Hayashi, Hideyuki Kobayashi, & Tetsuo Hasegawa.* 340, 298, 70-F10 (1989)

Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M–0.13–0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)

KOBAYASHI, YUKIYASU. A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)

An Infrared Quintuplet near the Galactic Center. *Haruyuki Okuda, Hiroshi Shibai, Takao Nakagawa, Hideo Matsuhara, Yukiyasu Kobayashi, Norio Kaifu, Tetsuya Nagata, I. Gatley, & T. R. Geballe.* 351, 89, 39-B11 (1990)

KOCH, CH. Antiproton Production of Propagating Cosmic Rays under Distributed Reacceleration. *Manfred Simon, U. Heinbach, & Ch. Koch.* 320, 699, 117-D6 (1987)

KOCH, ROBERT H. *IUE* Observations of V Sagittae. *Robert H. Koch, Michael F. Corcoran, Bruce D. Holenstein, & George E. McCluskey, Jr.* 306, 618, 91-C10 (1986)

V677 Centauri: Overcontact and Completely Eclipsing but A-Type or W-Type? *Pamela M. Kilmartin, David H. Bradstreet, & Robert H. Koch.* 319, 334, 96-E12 (1987)

KOCHANEK, CHRISTOPHER S. Tidal Heating of Globular Clusters. *David F. Chernoff, Christopher S. Kochanek, & Stuart L. Shapiro.* 309, 183, 122-A4 (1986)

How Big Are Supermassive Black Holes Formed from the Collapse of Dense Star Clusters? *Christopher S. Kochanek, Stuart L. Shapiro, & Saul A. Teukolsky.* 320, 73, 108-G8 (1987)

Gravitational Imaging by Isolated Elliptical Potential Wells. I. Cross Sections. *Roger D. Blandford & Christopher S. Kochanek.* 321, 658, 131-F1 (1987)

Gravitaional Imaging by Isolated Elliptical Potential Wells. II. Probability Distributions. *Christopher S. Kochanek & Roger D. Blandford.* 321, 676, 132-A3 (1987)

The Tidal Disruption of a Star by a Massive Black Hole. *Charles R. Evans & Christopher S. Kochanek.* 346, L13, 173-B7 (1989)

Hollow Conical Jet Models for SS 433: A Paradigm Lost? *Christopher S. Kochanek & John F. Hawley.* 350, 561, 33-B11 (1990)

Gravitational Radiation from Colliding Clusters: Newtonian Simulations in Three Dimensions. *Christopher S. Kochanek, Stuart L. Shapiro, Saul A. Teukolsky, & David F. Chernoff.* 358, 81, 123-A10 (1990)

KOCHAROV, G. E. Neutrons and Gamma-Ray Emission on 1982 June 3: The Possibility of Fitting the Data on the Assumption of One Population of Accelerated Particles. *V. G. Guglenko, Yu. E. Efimov, G. E. Kocharov, G. A. Kovaltsov, N. Z. Mandzhavidze, M. M. Terekhov, & L. G. Kocharov.* 73, 209, 20-E9 (1990)

KOCHAROV, L. G. Neutrons and Gamma-Ray Emission on 1982 June 3: The Possibility of Fitting the Data on the Assumption of One Population of Accelerated Particles. *V. G. Guglenko, Yu. E. Efimov, G. E. Kocharov, G. A. Kovaltsov, N. Z. Mandzhavidze, M. M. Terekhov, & L. G. Kocharov.* 73, 209, 20-E9 (1990)

KOCH-MIRAMOND, LYDIE. Measurement of the Vela Pulsar's Proper Motion and Detection of the Optical Counterpart of Its Compact X-Ray Nebula. *Hakki Ögelman, Lydie Koch-Miramond, & Michel Auriére.* 342, L83, 117-D13 (1989)

KODAIRA, K. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)

Vacuum Ultraviolet Imagery of the Virgo Cluster Region. II. Total Far-Ultraviolet Flux of Galaxies. *K. Kodaira, T. Watanabe, T. Onaka, & W. Tanaka.* 363, 422, 189-D1 (1990)

KODAIRA, KEIICHI. A Statistical Study of Luminosity Profiles of Galaxies Using Spheroid-Disk Composite Models. *Keiichi Kodaira, Masaaki Watanabe, & Sadanori Okamura.* 62, 703, 40-C13 (1986)

On the Interrelation between the Surface Photometric Parameters and the Internal Velocities of Galaxies. *Keiichi Kodaira.* 342, 122, 102-D11 (1989)

KOECHLIN, L. Measurements of the Diameter of the Large Magellanic Cloud Supernova SN 1987A. *M. Karovska, L. Koechlin, P. Nisenson, C. Papaliolios, & C. Standley.* 340, 435, 72-E12 (1989)

KÖMPE, C. Kinematics of the H II Region Sharpless 142. III. Molecular Line Observations and Analysis of the *IRAS* Data. *Gilles Joncas, C. Kömpe, & J. de La Noë.* 332, 1030, 135-G1 (1988)

KOEN, CHRIS. Significance Testing of Periodogram Ordinates. *Chris Koen.* 348, 700, 11-B12 (1990)

KÖNIGL, ARIEH. Force-free Equilibria of Magnetized Jets: Erratum. *Arieh Königl & Arnab Rai Choudhuri.* 305, 954, 79-D10 (1986) (Orig. paper in 289, 173, 12-F14 (1985))

Magnetic Energy Dissipation in Force-free Jets. *Arnab Rai Choudhuri & Arieh Königl.* 310, 96, 133-B3 (1986)

Magnetic Braking in Weakly Ionized Media. *Arieh Königl.* 320, 726, 117-F6 (1987)

Pair-Creation Effects in Accretion Shock Models of Active Galactic Nuclei. *John M. Blondin & Arieh Königl.* 323, 451, 159-E1 (1987)

Herbig-Haro Objects as the Heads of Radiative Jets. *John M. Blondin, Arieh Königl, & Bruce A. Fryxell.* 337, L37, 25-D1 (1989)

The Radiative Deceleration of Relativistic Jets in Active Galactic Nuclei. *Fulvio Melia & Arieh Königl.* 340, 162, 69-B5 (1989)

Self-similar Models of Magnetized Accretion Disks. *Arieh Königl.* 342, 208, 103-D11 (1989)

The Structure and Evolution of Radiatively Cooling Jets. *John M. Blondin, Bruce A. Fryxell, & Arieh Königl.* 360, 370, 150-G7 (1990)

A Model for the Magnetic Field in the Molecular Disk at the Galactic Center. *Mark Wardle & Arieh Königl.* 362, 120, 170-E11 (1990)

KOENIGSBERGER, G. Atmospheric Eclipses in the SMC Wolf-Rayet Eclipsing Binary HD 5980: The Heavy versus the Light Metal Abundance. *G. Koenigsberger, A. F. J. Moffat, & L. H. Auer.* 322, L41, 145-C12 (1987)

KOENIGSBERGER, GLORIA. *IUE* Observations of Wolf-Rayet Binary Systems in the Small Magellanic Cloud. *Anthony F. J. Moffat, Gloria Koenigsberger, & Lawrence H. Auer.* 344, 734, 143-D10 (1989)

KOESTER, D. Gravitational Redshift and Mass-Radius Relation in White Dwarfs. *D. Koester.* 322, 852, 149-B8 (1987)

Non–Local Thermodynamic Equilibrium Line Profiles, Rotation, and Magnetic Fields in Seven DA White Dwarfs. *D. Koester & A. Herrero.* 332, 910, 134-D5 (1988)

Can the *EXOSAT* Observations of DA White Dwarfs Be Explained by Layered Atmospheric Structures? *D. Koester.* 342, 999, 114-F1 (1989)

Model Atmosphere Analysis of the DZ White Dwarf K789–37. *D. Koester, G. Wegner, & D. Kilkenny.* 350, 329, 29-B1 (1990)

KOGUT, A. The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 325, 1, 19-A7 (1988)

The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz: Erratum. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 1, 19-A7 (1988))

A Measurement of the Cosmic Microwave Background Radiation Temperature at 1.410 GHz. *S. M. Levin, C. Witebsky, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, & G. F. Smoot.* 334, 14, 154-B9 (1988)

Formaldehyde Absorption toward W51. *A. Kogut, G. F. Smoot, C. L. Bennett, & S. J. Petuchowski.* 346, 763, 176-G2 (1989)

In Situ Measurement of the Cosmic Microwave Background Temperature at a Distance of 7.5 Kiloparsecs. *A. Kogut, S. J. Petuchowski, C. L. Bennett, & G. F. Smoot.* 348, L45, 13-A10 (1990)

A Measurement of the Temperature of the Cosmic Microwave Background at a Frequency of 7.5 GHz. *A. Kogut, M. Bensadoun, G. De Amici, S. Levin, G. F. Smoot, & C. Witebsky.* 355, 102, 88-C6 (1990)

KOGUT, AL. Measurement of the Intensity of the Cosmic Background Radiation at 3.7 GHz. *Giovanni De Amici, George F. Smoot, Jon Aymon, Marco Bersanelli, Al Kogut, Steven M. Levin, & Chris Witebsky.* 329, 556, 82-F8 (1988)

Measurements of the Cosmic Microwave Background Radiation Temperature at 90 GHz. *Marco Bersanelli, Chris Witebsky, Marc Bensadoun, Giovanni De Amici, Al Kogut, Steven M. Levin, & George F. Smoot.* 339, 632, 59-F7 (1989)

The Temperature of the Cosmic Background Radiation: Results from the 1987 and 1988 Measurements at 3.8 GHz. *Giovanni De Amici, Marc Bensadoun, Marco Bersanelli, Al Kogut, Steve Levin, George F. Smoot, & Chris Witebsky.* 359, 219, 136-G1 (1990)

KOGUT, ALAN. Long-Wavelength Measurements of the Cosmic Microwave Background Radiation Spectrum. *George F. Smoot, Marc Bensadoun, Marco Bersanelli, Giovanni De Amici, Alan Kogut, Steve Levin, & Chris Witebsky.* 317, L45, 78-A9 (1987)

KOHL, JOHN L. Analysis of Coronal H I Lyman-Alpha Measurements in a Polar Region of the Sun Observed in 1979. *George L. Withbroe, John L. Kohl, & Heinz Weiser.* 307, 381, 99-C5 (1986)

Solar Wind Diagnostics from Doppler-enhanced Scattering. *Giancarlo Noci, John L. Kohl, & George L. Withbroe.* 315, 706, 48-D1 (1987)

KOHYAMA, Y. Reaction Cross Section for "Solar Flare Neutrinos" with ^{37}Cl and ^{16}O Targets. *M. Fukugita, Y. Kohyama, K. Kubodera, & T. Kuramoto.* 337, L59, 25-E11 (1989)

KOHYAMA, YASUHARU. Neutrino Energy Loss in Stellar Interiors: Erratum. *Hiroharu Munakata, Yasuharu Kohyama, & Naoki Itoh.* 304, 580, 60-C1 (1986) (Orig. paper in 296, 197, 91-B4 (1985))

Neutrino Energy Loss in Stellar Interiors. II. Axial-Vector Contribution to the Plasma Neutrino Energy Loss Rate. *Yasuharu Kohyama, Naoki Itoh, & Hiroharu Munakata.* 310, 815, 142-G3 (1986)

Relativistic Free-free Gaunt Factor of the Dense High-Temperature Stellar Plasma. *Masayuki Nakagawa, Yasuharu Kohyama, & Naoki Itoh.* 63, 661, 10-E14 (1987)

Neutrino-Pair Bremsstrahlung in Dense Stars. V. Partially Degenerate Electrons. *Hiroharu Munakata, Yasuharu Kohyama, & Naoki Itoh.* 316, 708, 59-G3 (1987)

Viscosity of Dense Matter. *Naoki Itoh, Yasuharu Kohyama, & Hideo Tekeuchi.* 317, 733, 74-A13 (1987)

Axion Bremsstrahlung in Dense Stars. *Masayuki Nakagawa, Yasuharu Kohyama, & Naoki Itoh.* 322, 291, 141-A9 (1987)

Neutrino-Pair Bremsstrahlung in Dense Stars. IV. Phonon Constributions in the Crystalline Lattice Phase: Erratum. *Naoki Itoh, Yasuharu Kohyama, Noriyoshi Matsumoto, & Midori Seki.* 322, 584, 144-C9 (1987) (Orig. paper in 285, 304, 113-C2 (1984))

Axion Bremsstrahlung in Dense Stars. II. Phonon Contributions. *Masayuki Nakagawa, Tomoo Adachi, Yasuharu Kohyama, & Naoki Itoh.* 326, 241, 34-G7 (1988)

Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes. *Naoki Itoh, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 339, 354, 54-D5 (1989)

Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes: Erratum. *Itoh Naoki, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 360, 741, 155-C13 (1990) (Orig. paper in 352, 361, 54-D1 (1990))

KOJIMA, M. Observations of Field-aligned Density Fluctuations in the Inner Solar Wind. *J. W. Armstrong, W. A. Coles, M. Kojima, & B. J. Rickett.* 358, 685, 132-B1 (1990)

KOJO, KOICHI. Relativistic Free-free Gaunt Factor of the Dense High-Temperature Stellar Plasma. II. Carbon and Oxygen Plasmas. *Naoki Itoh, Koichi Kojo, & Masayuki Nakagawa.* 74, 291, 34-B1 (1990)

KOJOIAN, GABRIEL. Impulsiveness and Energetics in Solar Flares with and without Type II Radio Bursts: A Comparison of Hard X-Ray Characteristics for Over 2500 Solar Flares. *Douglas H. Pearson, Robert Nelson, Gabriel Kojoian, & James Seal.* 336, 1050, 15-E1 (1989)

KOLASSIS, C. A. Friedmann-like Collapsing Model of a Radiating Sphere with Heat Flow. *C. A. Kolassis, N. O. Santos, & D. Tsoubelis.* 327, 755, 56-G9 (1988)

KOLB, EDWARD W. Black Holes and Local Dark Matter. *Dennis J. Hegyi, Edward W. Kolb, & K. A. Olive.* 300, 492, 8-E2 (1986)

A Coasting Cosmology. *Edward W. Kolb.* 344, 543, 141-C9 (1989)

KOLLGAARD, R. I. Milliarcsecond Polarization Structure of the Superluminal Quasar 3C 273. *D. H. Roberts, R. I. Kollgaard, L. F. Brown, D. C. Gabuzda, & J. F. Wardle.* 360, 408, 151-D1 (1990)

KONDO, H. X-Ray Spectrum of the Spiral Galaxy M51 (NGC 5194). *K. Makishima, T. Ohashi, H. Kondo, G. G. C. Palumbo, & G. Trinchieri.* 365, 159, 208-B3 (1990)

KONDO, I. Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

KONDO, Y. The Ultraviolet Spectrum of Procyon. I. The Atlas from 2030 to 2371 Å. *R. Faraggiana, F. Castelli, C. Morossi, Y. Kondo, & K. A. van der Hucht.* 61, 719, 27-D2 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

Eight Years of Ultraviolet Spectra of the Variable BL Lacertae Object PKS 2155−305. *C. M. Urry, Y. Kondo, K. R. H. Hackney, & R. L. Hackney.* 330, 791, 101-C3 (1988)

An Evolving Relativistic Jet Model for the BL Lacertae Object Markarian 421. *S. L. Mufson, D. J. Hutter, Y. Kondo, C. M. Urry, & W. Z. Wiśniewski.* 354, 116, 75-D9 (1990)

KONDO, YOJI. The Extended Atmosphere of λ Pavonis at the Time of the Emergence of H-Emissions from Minimum Intensity. *Jorge Sahade, Marta Rovira, Adela E. Ringuelet, Yoji Kondo, & Lydia Cidale.* 327, 335, 50-F1 (1988)

Correlation Mass Method for Analysis of Neutrinos from Supernova 1987A. *Hong-Yee Chiu, Kwing L. Chan, & Yoji Kondo.* 329, 326, 78-F3 (1988)

IUE Spectroscopy of U Cephei during the Mass Flow Outburst of 1986 June. *George E. McCluskey, Jr., Yoji Kondo, & Edward C. Olson.* 332, 1019, 135-F1 (1988)

Analysis of the Velocity Law in the Wind of the Be Star λ Pavonis. *Haiqi Chen, Adela Ringuelet, Jorge Sahade, & Yoji Kondo.* 347, 1082, 197-A1 (1989)

KOO, BON-CHUL. A Survey of 12.2 GHz Methanol Masers and Their Polarization Properties. *Bon-Chul Koo, David R. W. Williams, Carl Heiles, & Donald C. Backer.* 326, 931, 43-F9 (1988)

Neutral Stellar Winds That Drive Bipolar Outflows in Low-Mass Protostars. *Susana Lizano, Carl Heiles, Luis F. Rodríguez, Bon-Chul Koo, Frank H. Shu, T. Hasegawa, S. Hayashi, & I. F. Mirabel.* 328, 763, 71-D7 (1988)

Molecules, Grains, and Shocks: A Comparison of CO, H I, and *IRAS* Data. *Carl Heiles, William T. Reach, & Bon-Chul Koo.* 332, 313, 126-E9 (1988)

Extremely High-Velocity Molecular Flows in Young Stellar Objects. *Bon-Chul Koo.* 337, 318, 21-C8 (1989)

A Large Bubble around the Crab Nebula. *Roger W. Romani, William T. Reach, Bon-Chul Koo, & Carl Heiles.* 349, L51, 24-C5 (1990)

Dynamics of Adiabatic Blast Waves in Media of Finite Mass. *Bon-Chul Koo & Christopher F. McKee.* 354, 513, 82-F11 (1990)

Molecular Line Observations of the Extremely High Velocity Molecular Flow near HH 7–11. *Bon-Chul Koo.* 361, 145, 158-G1 (1990)

Detection of an Expanding H I Shell in the Old Supernova Remnant CTB 80. *Bon-Chul Koo, William T. Reach, Carl Heiles, Robert A. Fesen, & J. Michael Shull.* 364, 178, 196-C5 (1990)

KOO, DAVID C. Multicolor Photometry of Field Galaxies to $B \cong 24$. *David C. Koo.* 311, 651, 155-A4 (1986)

Spectroscopic Survey of QSOs to $B = 22.5$: The Luminosity Function. *David C. Koo & Richard G. Kron.* 325, 92, 20-B8 (1988)

II Zw 1305.4+2941 at $z = 0.24$: Another Rich, Red, Compact Cluster. *David C. Koo, Richard G. Kron, D. Nanni, D. Trevese, & A. Vignato.* 333, 586, 146-D8 (1988)

Optical Observations of the X-Ray Binary V1727 Cygni (=4U 2129+47) during a Low State: Some Unexpected Results. *John R. Thorstensen, Kenneth R. Brownsberger, Delo E. Mook, The Off-Campus Program Students, Ronald A. Remillard, Jeffrey E. McClintock, David C. Koo, & Philip A. Charles.* 334, 430, 159-E1 (1988)

Close Pairs of Galaxies in Deep Sky Surveys. *Stephen E. Zepf & David C. Koo.* 337, 34, 17-D6 (1989)

KOOMEN, M. J. Solar Gradual Hard X-Ray Bursts and Associated Phenomena. *E. W. Cliver, B. R. Dennis, A. L. Kiplinger, S. R. Kane, D. F. Neidig, N. R. Sheeley, Jr., & M. J. Koomen.* 305, 920, 79-A12 (1986)

KOONIN, S. Slowly Accreting Neutron Stars and the Origin of Gamma-Ray Bursts. *O. Blaes, R. Blandford, P. Madau, & S. Koonin.* 363, 612, 191-G1 (1990)

KOONIN, S. E. Effect of Ion Correlations on Free-Free Opacities. *N. R. Dagdeviren & S. E. Koonin.* 319, 192, 95-B3 (1987)

Dynamic Screening of Thermonuclear Reactions. *C. Carraro, A. Schäfer, & S. E. Koonin.* 331, 565, 112-F1 (1988)

Pycnonuclear Fusion Rates. *S. Schramm & S. E. Koonin.* 365, 296, 210-B1 (1990)

KOORNNEEF, J. Pre–Main-Sequence Stars in the Serpens Molecular Cloud. *E. Churchwell & J. Koornneef.* 300, 729, 11-B4 (1986)

KOPLAN, E. L. A Catalog of *IRAS* Observations of Large Optical Galaxies. *W. Rice, Carol J. Lonsdale, B. T. Soifer, G. Neugebauer, E. L. Koplan, Lawrence A. Lloyd, T. de Jong, & H. J. Habing.* 68, 91, 24-F1 (1988)

KOPP, G. Far-Infrared Intensity Variations Caused by 5 Minute Oscillations. *C. Lindsey, G. Kopp, E. E. Becklin, T. Roellig, M. W. Werner, J. T. Jefferies, F. Q. Orrall, D. Braun, & D. L. Mickey.* 350, 475, 30-G1 (1990)

KOPPMANN, R. Current Density Effects and the Importance of Charge Transfer Processes in the Radiolysis of Methane: Astrophysical Implications. *N. J. Sack, R. Schuster, A. Hofmann, A. Khedim, & R. Koppmann.* 360, 305, 148-G1 (1990)

KORATKAR, A. P. A Study of the Baldwin Effect in the *IUE* Data Set. *A. L. Kinney, A. R. Rivolo, & A. P. Koratkar.* 357, 338, 116-G1 (1990)

KORATKAR, ANURADHA P. Emission-Line Variability of Fairall 9: Determination of the Size of the Broad-Line Region and the Direction of Gas Motion. *Anuradha P. Koratkar & C. Martin Gaskell.* 345, 637, 158-F2 (1989)

KORESKO, C. D. Tomographic Imaging of HL Tauri. *Steven V. W. Beckwith, Anneila I. Sargent, C. D. Koresko, & D. A. Weintraub.* 343, 393, 123-A4 (1989)

KORISTA, K. T. The Origin of Coronal Lines in Seyfert Galaxies. *K. T. Korista & G. J. Ferland.* 343, 678, 126-E8 (1989)

Optically Thin Thermal Emission as the Origin of the Big Bump in the Spectra of Active Galactic Nuclei. *G. J. Ferland, K. T. Korista, & B. M. Peterson.* 363, L21, 193-D5 (1990)

KORISTA, KIRK T. The Double Broad-Line Emitting Regions in NGC 5548 as Possible Evidence for a Supermassive Binary. *Bradley M. Peterson, Kirk T. Korista, & Stephen A. Cota.* 312, L1, 7-A4 (1987)

The Evolution of the Radio Emission from Kepler's Supernova Remnant. *John R. Dickel, Robert Sault, Richard G. Arendt, Yutaka Matsui, & Kirk T. Korista.* 330, 254, 92-G9 (1988)

Ultraviolet and Optical Spectroscopy of NGC 5548 and the Nature of the Broad-Line Region. *Bradley M. Peterson, Gail A. Reichert, Kirk T. Korista, & R. Mark Wagner.* 352, 68, 51-A1 (1990)

KORMENDY, JOHN. The Core of the M87 Globular Cluster System. *Tod R. Lauer & John Kormendy.* 303, L1, 47-A4 (1986)

Evidence for a Supermassive Black Hole in the Nucleus of M31. *John Kormendy.* 325, 128, 20-E4 (1988)

Evidence for a Central Dark Mass in NGC 4594 (The Sombrero Galaxy). *John Kormendy.* 335, 40, 170-E8 (1988)

Noncircular Gas Velocities and the Radial Dependence of Mass-to-Light Ratio in NGC 4594 (The Sombrero Galaxy). *John Kormendy & David J. Westpfahl.* 338, 752, 43-B10 (1989)

Did Elliptical Galaxies Form by Mergers or by Dissipative Collapse? *John Kormendy.* 342, L63, 117-C7 (1989)

KORTH, A. On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 343, L77, 132-E5 (1989)

On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 349, L33, 19-D4 (1990) (Orig. paper in 343, L77, 132-E5 (1989))

The Identification of H_3S^+ with the Ion of Mass per Charge (m/q) 35 Observed in the Coma of Comet Halley. *M. L. Marconi, D. A. Mendis, A. Korth, R. P. Lin, D. L. Mitchell, & H. Reme.* 352, L17, 55-C1 (1990)

KORZENNIK, SYLVAIN. Depth and Latitude Dependence of the Solar Internal Angular Velocity. *Edward J. Rhodes, Jr., Alessandro Cacciani, Sylvain Korzennik, Steven Tomczyk, Roger K. Ulrich, & Martin F. Woodard.* 351, 687, 48-F1 (1990)

KORZENNIK, SYLVAIN G. On the Constancy of Intermediate-Degree p-Mode Frequencies during the Declining Phase of Solar Cycle 21. *Edward J. Rhodes, Jr., Martin F. Woodard, Alessandro Cacciani, Steven Tomczyk, Sylvain G. Korzennik, & Roger K. Ulrich.* 326, 479, 37-E4 (1988)

Seismic Analysis of the Solar Interior. I. Can Opacity Changes Improve the Theoretical Frequencies? *Sylvain G. Korzennik & Roger K. Ulrich.* 339, 1144, 65-F7 (1989)

KORZHAVIN, A. N. Structure of a Solar Active Region from RATAN 600 and Very Large Array Observations. *Sh. B. Akhmedow, V. N. Borovik, G. B. Gelfreikh, V. M. Bogod, A. N. Korzhavin, Z. E. Petrov, V. N. Dikij, Kenneth R. Lang, & Robert F. Willson.* 301, 460, 18-G9 (1986)

KOSHIBA, M. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

KOSTIUK, THEODOR. A Search for p-Mode Oscillations of Jupiter: Serendipitous Observations of Nonacoustic Thermal Wave Structure. *Drake Deming, Michael J. Mumma, Fred Espenak, Donald E. Jennings, Theodor Kostiuk, Gunter Wiedemann, Robert Loewenstein, & Joseph Piscitelli.* 343, 456, 123-F7 (1989)

KOSUGI, T. Current Loop Coalescence Model of Solar Flares. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 321, 1031, 135-F10 (1987)

Current Loop Coalescence Model of Solar Flares: Erratum. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 329, 517, 80-G1 (1988) (Orig. paper in 321, 1031, 135-F10 (1987))

KOSUGI, TAKEO. Energetic Electrons in Impulsive and Extended Solar Flares as Deduced from Flux Correlations between Hard X-Rays and Microwaves. *Takeo Kosugi, Brian R. Dennis, & Keizo Kai.* 324, 1118, 15-G1 (1988)

KÓTA, J. Cosmic Rays at Fluid Discontinuities. *J. R. Jokipii, J. Kóta, & G. Morfill.* 345, L67, 157-F9 (1989)

KOUPELIS, T. A Helix Model for the Acceleration of Blobs in Astrophysical Jets. *T. Koupelis & H. M. Van Horn.* 324, 93, 2-A2 (1988)

A Quasi–one-dimensional Model for Narrow Astrophysical Jets. *T. Koupelis & H. M. Van Horn.* 342, 146, 102-F13 (1989)

KOUPELIS, THEODOROS. A Description of Narrow Jets Using a Quasi–One-dimensional Model. I. Jets with Constant Opening Angle. *Theodoros Koupelis.* 363, 79, 183-B7 (1990)

KOUVELIOTOU, C. Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806–20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

A 2.2 Second Period in the 1984 August 3 Gamma-Ray Burst. *C. Kouveliotou, U. D. Desai, T. L. Cline, B. R. Dennis, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 330, L101, 104-G1 (1988)

KOUVELIOTOU, CHRYSSA. Short Solar Events with Evidence of Repetitive Structures. *Upendra D. Desai, Chryssa Kouveliotou, C. Barat, K. Hurley, M. Niel, R. Talon, G. Vedrenne, I. V. Estulin, & V. Ch. Dolidze.* 319, 567, 99-E1 (1987)

KOVÁCS, G. The Effects of a 2:1 Resonance in Nonlinear Radial Stellar Pulsations. *J. R. Buchler & G. Kovács.* 303, 749, 50-F10 (1986)

Fourier Analysis of the Light Curves of the RR Lyrae Stars in the Globular Clusters M15, NGC 6171, and NGC 6723. *G. Kovács, I. Shlosman, & J. R. Buchler.* 307, 593, 103-D7 (1986)

Application of Time-dependent Fourier Analysis to Nonlinear Pulsational Stellar Models. *G. Kovács, J. R. Buchler, & C. G. Davis.* 319, 247, 95-F6 (1987)

KOVÁCS, GÉZA. On the Modal Selection of Radial Stellar Pulsators. *J. Robert Buchler & Géza Kovács.* 308, 661, 116-C1 (1986)

Modal Selection in Stellar Pulsators. II. Application to RR Lyrae Models. *J. Robert Buchler & Géza Kovács.* 318, 232, 81-D7 (1987)

Period Doubling Bifurcations and Chaos in W Virginis Models. *J. Robert Buchler & Géza Kovács.* 320, L57, 114-E3 (1987)

A Survey of RR Lyrae Models and Search for Steady Multimode Pulsations. *Géza Kovács & J. Robert Buchler.* 324, 1026, 14-G3 (1988)

Regular and Irregular Nonlinear Pulsations in Population II Cepheid Models. *Géza Kovács & J. Robert Buchler.* 334, 971, 167-C1 (1988)

The Cepheid Bump Progression and Amplitude Equations. *Géza Kovács & J. Robert Buchler.* 346, 898, 178-D1 (1989)

Cepheid Radial Velocity Curves Revisited. *Géza Kovács, Erika G. Kisvarsányi, & J. Robert Buchler.* 351, 606, 47-F1 (1990)

A Survey of Bump Cepheid Model Pulsations. *J. Robert Buchler, Pawel Moskalik, & Géza Kovács.* 351, 617, 47-G1 (1990)

KOVALTSOV, G. A. Neutrons and Gamma-Ray Emission on 1982 June 3: The Possibility of Fitting the Data on the Assumption of One Population of Accelerated Particles. *V. G. Guglenko, Yu. E. Efimov, G. E. Kocharov, G. A. Kovaltsov, N. Z. Mandzhavidze, M. M. Terekhov, & L. G. Kocharov.* 73, 209, 20-E9 (1990)

KOVETZ, A. The Effect of Coulomb Interactions on the Helium Flash. *A. Harpaz & A. Kovetz.* 331, 898, 118-F10 (1988)

KOVETZ, ATTAY. Evolution of a 0.7 $M_\odot$ Red Giant. *Amos Harpaz, Attay Kovetz, & Giora Shaviv.* 323, 154, 154-F13 (1987)

What Does an Erupting Nova Do to Its Red Dwarf Companion? *Attay Kovetz, Dina Prialnik, & Michael M. Shara.* 325, 828, 29-E10 (1988)

Accretion Heating and Thermonuclear Runaways on the Surfaces of Iron White Dwarfs. *Dina Prialnik, Attay Kovetz, & Michael M. Shara.* 339, 1013, 64-C1 (1989)

KOVNER, ISRAEL. The Quadrupole Gravitational Lens. *Israel Kovner.* 312, 22, 1-B14 (1987)

The Thick Gravitational Lens: A Lens Composed of Many Elements at Different Distances. *Israel Kovner.* 316, 52, 50-E10 (1987)

Extraction of Cosmological Information from Multiimage Gravitational Lenses. *Israel Kovner.* 318, L1, 85-A4 (1987)

The Marginal Gravitational Lensing. *Israel Kovner.* 321, 686, 132-A13 (1987)

Concerning the Limit on the Mean Mass Distribution of Galaxies from Their Gravitational Lens Effect. *Israel Kovner & Mordehai Milgrom.* 321, L113, 137-B5 (1987)

Extraction of Cosmological Information from Multiimage Gravitational Lenses: Erratum. *Israel Kovner.* 323, L155, 164-E13 (1987) (Orig. paper in 318, L1, 85-A4 (1987))
Supernovae in Luminous Arcs. *Israel Kovner & Bohdan Paczyński.* 335, L9, 177-B1 (1988)
Diagnostics of Compact Clusters of Galaxies by Giant Luminous Arcs. *Israel Kovner.* 337, 621, 26-F14 (1989)
Maximal Lens Bounds on QSO-Galaxy Association. *Israel Kovner.* 341, L1, 91-A6 (1989)
Clearings in Lyα Forests. *Israel Kovner & Martin J. Rees.* 345, 52, 149-E12 (1989)
Fermat Principle in Arbitrary Gravitational Fields. *Israel Kovner.* 351, 114, 39-E1 (1990)
Antipodal Microwave. *Ruth Durrer & Israel Kovner.* 356, 49, 99-F1 (1990)

KOWALSKI, M. P. *HEAO 2* X-Ray Observations of Clusters of Galaxies. *M. P. Ulmer, M. P. Kowalski, & R. G. Cruddace.* 303, 162, 42-F11 (1986)
Do the Major Axes of Rich Clusters of Galaxies Point toward Their Neighbors? *M. P. Ulmer, S. L. W. McMillan, & M. P. Kowalski.* 338, 711, 42-F1 (1989)
X-Ray Morphologies of Abell Clusters. *S. L. W. McMillan, M. P. Kowalski, & M. P. Ulmer.* 70, 723, 29-E1 (1989)
Spartan 1 X-Ray Observations of the Perseus Cluster. II. The Distribution of Flux and Hardness Ratio Out to a Radius of 50 Arcminutes. *W. A. Snyder, M. P. Kowalski, R. G. Cruddace, G. G. Fritz, J. Middleditch, E. E. Fenimore, M. P. Ulmer, & S. R. Majewski.* 365, 460, 213-F8 (1990)

KOWK, P. W. Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

KOYAMA, K. X-Ray Spectrum from Gamma Cassiopeiae. *T. Murakami, K. Koyama, H. Inoue, & P. C. Agrawal.* 310, L31, 138-C5 (1986)
Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)
Spectra and Pulse Period of the Binary X-Ray Pulsar 4U 1538−52. *K. Makishima, K. Koyama, S. Hayakawa, & F. Nagase.* 314, 619, 36-C10 (1987)
V Hydrae: A Carbon Star in Transformation to a Bipolar Nebula. *T. Tsuji, W. Unno, N. Kaifu, H. Izumiura, N. Ukita, S. Cho, & K. Koyama.* 327, L23, 53-C1 (1988)
X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)
Discovery of a Peculiar X-Ray Pulsar GS 1843+00. *K. Koyama, M. Kawada, Y. Takeuchi, Y. Tawara, N. Ushimaru, T. Dotani, & M. Takizawa.* 356, L47, 110-B11 (1990)
X-Ray Observations of NGC 253 and M83 with *Ginga*. *T. Ohashi, K. Makishima, T. Tsuru, S. Takano, K. Koyama, & G. C. Stewart.* 365, 180, 208-D9 (1990)
Optically Thin Hot Plasma near the Galactic Center: Mapping Observations of the 6.7 keV Iron Line. *S. Yamauchi, M. Kawada, K. Koyama, H. Kunieda, & Y. Tawara.* 365, 532, 214-G5 (1990)

KOYAMA, KATSUJI. X-Ray Spectra of the Cassiopeia A and Tycho Supernova Remnants and Their Element Abundances. *Hiroshi Tsunemi, Koujun Yamashita, Kuniaki Masai, Satio Hayakawa, & Katsuji Koyama.* 306, 248, 84-A8 (1986)
Hard X-Ray Emission from the Carina Nebula. *Katsuji Koyama, Ikuko Asaoka, Naoko Ushimaru, Shigeo Yamauchi, & Robin H. D. Corbet.* 362, 215, 171-G3 (1990)

KOYAMA, KOUICHI. Detection of $H^{13}CN$ Maser Emission from the Ground State toward Y Canum Venaticorum. *Hideyuki Izumiura, Nobuharu Ukita, Ryohei Kawabe, Norio Kaifu, Takashi Tsuji, Wasaburo Unno, & Kouichi Koyama.* 323, L81, 158-F10 (1987)

KOZASA, TAKASHI. Formation of Dust Grains in the Ejecta of SN 1987A. *Takashi Kozasa, Hiroichi Hasegawa, & Ken'ichi Nomoto.* 344, 325, 137-A13 (1989)
Thermal Radiation from Dust Grains Formed in the Ejecta of SN 1987A. *Takashi Kozasa, Hiroichi Hasegawa, & Ken'ichi Nomoto.* 346, L81, 181-D5 (1989)

KOZLOVSKY, B. Positrons from Accelerated Particle Interactions. *B. Kozlovsky, R. E. Lingenfelter, & R. Ramaty.* 316, 801, 60-G6 (1987)
Gamma-Ray Spectroscopic Tests for the Anisotropy of Accelerated Particles in Solar Flares. *R. J. Murphy, B. Kozlovsky, & R. Ramaty.* 331, 1029, 120-C8 (1988)
^{7}Li and ^{7}Be De-Excitation Lines: Probes for Accelerated Particle Transport Models in Solar Flares. *R. J. Murphy, X.-M. Hua, B. Kozlovsky, & R. Ramaty.* 351, 299, 41-G1 (1990)

KRAAN-KORTEWEG, R. C. 21 Centimeter Line Width Distances of Cluster Galaxies and the Value of H_0. *R. C. Kraan-Korteweg, L. M. Cameron, & G. A. Tammann.* 331, 620, 115-E10 (1988)

KRAEMER, S. B. Dust in the Emission-Line Gas of the Seyfert 2 Galaxy Markarian 3. *S. B. Kraemer & J. Patrick Harrington.* 307, 478, 102-A1 (1986)

KRAUS, D. J. Epsilon Aurigae: Polarization, Light Curves, and Geometry of the 1982–1984 Eclipse. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, T. B. Ake, T. Simon, & G. W. Collins.* 300, L11, 7-B2 (1986)
Variable Polarization and Activity in Arcturus. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, & D. K. Duncan.* 301, L35, 20-D7 (1986)
SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)
Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)
Discovery of Broad-Band Optical Circular Polarization in Alpha Leonis. *G. D. Henson, J. C. Kemp, D. J. Kraus, & D. J. Hankins.* 340, L65, 83-C5 (1989)

KRAUS, U. Radiative Transfer in Fast-moving Media: The Limit of the Diffusion Approximation. *A. Rebetzky, H. Herold, U. Kraus, T. Maile, H. Ruder, & K. Wolf.* 344, L33, 140-C13 (1989)

KRAUSE, S. W. Counts of Serendipitous 6 Centimeter Sources in E/S0 Galaxy Fields. *J. M. Wrobel & S. W. Krause.* 363, 11, 182-C1 (1990)

KRAUSE-POLSTORFF, J. JPL Pulsar Timing Observations. IV. Excess Phase Noise. *G. S. Downs & J. Krause-Polstorff.* 62, 81, 32-G8 (1986)
JPL Pulsar Timing Observations. V. Macro- and Microjumps in the Vela Pulsar 0833−45. *J. M. Cordes, G. S. Downs, & J. Krause-Polstorff.* 330, 847, 101-G6 (1988)

KRAUSS, LAWRENCE M. Gravitational Lensing by Isothermal Spheres with Finite Core Radii: Galaxies and Dark Matter. *Gary Hinshaw & Lawrence M. Krauss.* 320, 468, 114-E7 (1987)
Big Bang Nucleosynthesis: Predictions and Uncertainties. *Lawrence M. Krauss & Paul Romanelli.* 358, 47, 122-F1 (1990)

KRAUTTER, JOACHIM. The Nebular Phase of Nova GQ Muscae 1983: Evolution of the Ionization of the Optical Spectrum. *Joachim Krautter & Robert E. Williams.* 341, 968, 97-B8 (1989)

KREIDL, T. J. Near-Infrared CCD Photometry of Cygnus X-3. *R. Mark Wagner, T. J. Kreidl, S. J. Bus, & Wayne Williams.* 346, 971, 179-C1 (1989)

KREŁOWSKI, J. Three Families of Diffuse Interstellar Bands? *J. Krełowski & G. A. H. Walker.* 312, 860, 12-C11 (1987)
Interdependence of the 4430 Å Diffuse Interstellar Band, Polarization, and Ultraviolet Extinction. *J. Krełowski, G. A. H. Walker, G. R. Grieve, & G. M. Hill.* 316, 449, 55-A3 (1987)

KRICHBAUM, T. P. Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth,*

A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide. 360, L43, 156-C7 (1990)

KRISCIUNAS, K. The Broad-Line Region at the Center of the Galaxy. *T. R. Geballe, R. Wade, K. Krisciunas, I. Gatley, & M. C. Bird.* 320, 562, 115-F12 (1987)

Ionization State in and Reddening to the Center of the Galaxy. *R. Wade, T. R. Geballe, K. Krisciunas, I. Gatley, & M. C. Bird.* 320, 570, 115-G7 (1987)

KRISHER, TIMOTHY P. 4U 1820–30 as a Potential Test of the Nonsymmetric Gravitational Theory of Moffat. *Timothy P. Krisher.* 320, L47, 114-D8 (1987)

Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

The Modified Newtonian Force Law of Rood and the Perihelion Shift of Mercury. *Timothy P. Krisher.* 331, L135, 122-A12 (1988)

KRISHNAKUMAR, E. Radiative Lifetimes of B and $C^1\Sigma^+$ States of CO. *E. Krishnakumar & S. K. Srivastava.* 307, 795, 105-F3 (1986)

KRISHNA SWAMY, K. S. Statistical Equilibrium in Cometary C_2. IV. A 10 Level Model Including Singlet-Triplet Transitions. *K. S. Krishna Swamy & C. R. O'Dell.* 317, 543, 69-G7 (1987)

C_2 in Comet Halley: Evidence for Its Being Third Generation and Resolution of the Vibrational Population Discrepancy. *C. R. O'Dell, Ronald R. Robinson, K. S. Krishna Swamy, Patrick J. McCarthy, & Hyron Spinrad.* 334, 476, 160-B1 (1988)

Infrared Emission from Comets. *K. S. Krishna Swamy, S. A. Sandford, L. J. Allamandola, F. C. Witteborn, & J. D. Bregman.* 340, 537, 73-G11 (1989)

KRISS, GERARD A. Dynamics of the Poor Clusters MKW 4 and AWM 4. *Eliot M. Malmuth & Gerard A. Kriss.* 308, 10, 108-B1 (1986)

X-Ray, Optical, and Infrared Luminosity Correlations in Radio-quiet Quasars. *Gerard A. Kriss.* 324, 809, 12-C3 (1988)

Soft X-Ray Observations of Pre–Main-Sequence Stars in the Chamaeleon Dark Cloud. *Eric D. Feigelson & Gerard A. Kriss.* 338, 262, 36-B5 (1989)

KRISTIAN, J. A 190 Second Periodicity in the Optical Emission of the Enigmatic X-Ray Source GX 339–4. *T. Steiman-Cameron, J. Imamura, J. Middleditch, & J. Kristian.* 359, 197, 136-E1 (1990)

KRISTIAN, J. A. Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

KRISTIAN, JEROME. The Stellar Population in the Halos of M31 and M33. *Jeremy Mould & Jerome Kristian.* 305, 591, 75-C9 (1986)

H I Maps of S0 Galaxies with Polar Rings. *J. H. van Gorkom, Paul L. Schechter, & Jerome Kristian.* 314, 457, 34-E3 (1987)

The Age of the LMC Globular Cluster NGC 1783. *Jeremy Mould, Jerome Kristian, James Nemec, Marc Aaronson, & Joseph Jensen.* 339, 84, 51-A8 (1989)

The Dwarf Spheroidal Galaxy Andromeda I. *Jeremy Mould & Jerome Kristian.* 354, 438, 81-G7 (1990)

The 8 Second Optical Quasi-periodic Oscillations in GX 339–4. *James N. Imamura, Jerome Kristian, John Middleditch, & Thomas Y. Steiman-Cameron.* 365, 312, 210-C5 (1990)

KROEGER, RICHARD. Measurements of Hydrogen and Helium Isotopes in Galactic Cosmic Rays from 1978 through 1984. *Richard Kroeger.* 303, 816, 51-D9 (1986)

Solar Neutron Decay Proton Observations in Cycle 21. *Paul Evenson, Richard Kroeger, Peter Meyer, & Donald Reames.* 73, 272, 21-D13 (1990)

KROLIK, J. H. The Effects of Electron Scattering Opacity in the Broad Emission-Line Regions of Quasars. *T. R. Kallman & J. H. Krolik.* 308, 805, 117-F9 (1986)

The Discrete Correlation Function: A New Method for Analyzing Unevenly Sampled Variability Data. *R. A. Edelson & J. H. Krolik.* 333, 646, 147-C1 (1988)

Broad-Band Properties of the CfA Seyfert Galaxies. III. Ultraviolet Variability. *R. A. Edelson, J. H. Krolik, & G. F. Pike.* 359, 86, 135-B9 (1990)

KROLIK, JULIAN H. An X-Ray Heated Wind in NGC 1068. *Julian H. Krolik & Mitchell C. Begelman.* 308, L55, 120-F4 (1986)

Fe K Features as Probes of the Nuclear Reflection Region in Seyfert Galaxies. *Julian H. Krolik & Timothy R. Kallman.* 320, L5, 114-A8 (1987)

The Effects of Thermal Accretion Disk Spectra on the Emission Lines from Active Galactic Nuclei. *Julian H. Krolik & Timothy R. Kallman.* 324, 714, 11-B6 (1988)

The Origin of Broad Emission Line Clouds in Active Galactic Nuclei. *Julian H. Krolik.* 325, 148, 20-F11 (1988)

Molecular Tori in Seyfert Galaxies: Feeding the Monster and Hiding It. *Julian H. Krolik & Mitchell C. Begelman.* 329, 702, 84-D2 (1988)

Measuring H_0 and q_0 with X-Ray Lines from Galaxy Clusters. *Julian H. Krolik & John C. Raymond.* 335, L39, 185-A10 (1988)

The Recombination Epoch Revisited. *Julian H. Krolik.* 338, 594, 41-D2 (1989)

The Physical State of the Obscuring Torus in Seyfert Galaxies. *Julian H. Krolik & Stephen Lepp.* 347, 179, 184-C10 (1989)

Fueling Active Galactic Nuclei by Magnetic Braking. *Julian H. Krolik & Avery Meiksin.* 352, L33, 61-B7 (1990)

Further Corrections to the Theory of Cosmological Recombination. *Julian H. Krolik.* 353, 21, 62-C9 (1990)

Electron-Positron Heating and the Eclipsing Millisecond Pulsar PSR 1957+20. *Julian H. Krolik & Mark W. Sincell.* 357, 208, 113-F1 (1990)

KROMBEL, K. E. Isotopic Composition of Cosmic-Ray Boron and Nitrogen. *K. E. Krombel & M. E. Wiedenbeck.* 328, 940, 73-E1 (1988)

KRON, RICHARD G. Spectroscopic Survey of QSOs to $B = 22.5$: The Luminosity Function. *David C. Koo & Richard G. Kron.* 325, 92, 20-B8 (1988)

II Zw 1305.4+2941 at $z = 0.24$: Another Rich, Red, Compact Cluster. *David C. Koo, Richard G. Kron, D. Nanni, D. Trevese, & A. Vignato.* 333, 586, 146-D8 (1988)

KRONBERG, P. P. X-Ray Observations of the Starburst Galaxy M82. *R. Schaaf, W. Pietsch, P. L. Biermann, P. P. Kronberg, & T. Schmutzler.* 336, 722, 11-D1 (1989)

The Halo and Magnetic Field of the Coma Cluster of Galaxies. *K.-T. Kim, P. P. Kronberg, P. E. Dewdney, & T. L. Landecker.* 355, 29, 87-D1 (1990)

The Magnetic Field of the Crab Nebula and the Nature of Its "Jet." *M. F. Bietenholz & P. P. Kronberg.* 357, L13, 115-C5 (1990)

KRONBERG, PHILIPP P. The "Jet" Rotation Measure Distribution and the Optical Absorption System near the $z = 1.953$ Quasar 3C 191. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 355, L31, 98-C1 (1990)

KROOK, MAX. Thermal Effects of Submerged Horizontal Flux Tubes. *Max Krook & Bernard Budiansky.* 308, 966, 119-E5 (1986)

KROPP, W. R. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

KROTO, H. Dust around AFGL 2688, Molecular Shielding, and the Production of Carbon Chain Molecules. *M. Jura & H. Kroto.* 351, 222, 40-G1 (1990)

KROTO, H. W. Long Carbon Chain Molecules in Circumstellar Shells. *H. W. Kroto, J. R. Heath, S. C. O'Brien, R. F. Curl, & R. E. Smalley.* 314, 352, 32-A9 (1987)

KRUGLYAK, L. Non-Newtonian Forces and the Invisible Mass Problem. *J. R. Kuhn & L. Kruglyak.* 313, 1, 15-A7 (1987)

KRUPER, J. S. Soft X-Ray Properties of Seyfert Galaxies. I. Spectra. *J. S. Kruper, C. M. Urry, & C. R. Canizares.* 74, 347, 35-D1 (1990)

KRUPER, JOHN S. The Nature of Red Active Galactic Nuclei in X-Ray Selected Samples. *John S. Kruper & Claude R. Canizares.* 343, 66, 118-G8 (1989)

KRZEMINSKI, WOJCIECH. Discovery of Optical Emission from the Remnant of SN 1957D in M83. *Knox S. Long, William P. Blair, & Wojciech Krzeminski.* 340, L25, 75-E4 (1989)

KU, W. H.-M. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

KUBODERA, K. Reaction Cross Section for "Solar Flare Neutrinos" with ^{37}Cl and ^{16}O Targets. *M. Fukugita, Y. Kohyama, K. Kubodera, & T. Kuramoto.* 337, L59, 25-E11 (1989)

KUBONO, S. Experimental Determination of the ^{19}Ne$(p,\gamma)^{20}$Na Reaction Rate and the Breakout Problem from the Hot CNO Cycle. *S. Kubono, H. Orihara, S. Kato, & T. Kajino.* 344, 460, 138-F1 (1989)

KUCHAR, THOMAS A. H I Emission-Absorption Experiments toward Galactic H II Regions. *Thomas A. Kuchar & T. M. Bania.* 352, 192, 52-D1 (1990)

KUDELA, K. A Search for Solar Neutron Response in Neutron Monitor Data. *K. Kudela.* 73, 297, 21-G3 (1990)

KUDRITZKI, R. P. Evolutionary versus Dynamical Time Scales for the Evolution of the Central Stars of Planetary Nebulae. *J. K. McCarthy, J. R. Mould, R. H. Mendez, R. P. Kudritzki, D. Husfeld, A. Herrero, & H. G. Groth.* 351, 230, 40-G10 (1990)

KUDRYAVTSEV, V. A. On the Diffuse Gamma Radiation at Ultra-High Energies, $E_\gamma \gtrsim 10^{14}$ eV. *V. S. Berezinsky & V. A. Kudryavtsev.* 349, 620, 23-A3 (1990)

KUECHLER, G. Radiative Transitions in ^{27}Al and Their Relevance to the ^{26}Al$(p,\gamma)^{27}$Si Reaction under Stellar Conditions. *C. Rangacharyulu, G. Kuechler, A. Richter, & E. Spamer.* 320, 405, 112-D9 (1987)

KÜHR, HELMUT. High-Resolution Radio Observations of the Most Luminous Quasar. *Helmut Kühr, John T. Stocke, Peter A. Strittmatter, Norbert Bartel, Andreas Eckart, Cornelius Schalinski, Arno Witzel, & Peter Biermann.* 302, 52, 28-E5 (1986)

KUHN, J. R. A Search for Extragalactic Background Light Using the Dark Cloud L134. *S. P. Boughn & J. R. Kuhn.* 309, 33, 120-C11 (1986)

The Variable Oblateness of the Sun: Measurements of 1984. *R. H. Dicke, J. R. Kuhn, & K. G. Libbrecht.* 311, 1025, 159-B1 (1986)

Non-Newtonian Forces and the Invisible Mass Problem. *J. R. Kuhn & L. Kruglyak.* 313, 1, 15-A7 (1987)

Is the Solar Oblateness Variable? Measurements of 1985. *R. H. Dicke, J. R. Kuhn, & K. G. Libbrecht.* 318, 451, 83-G9 (1987)

Observations of a Solar Latitude-dependent Limb Brightness Variation: Erratum. *J. R. Kuhn, K. G. Libbrecht, & R. H. Dicke.* 319, 1010, 106-A8 (1987) (Orig. paper in 290, 758, 32-C8 (1985))

Helioseismological Splitting Measurements and the Nonspherical Solar Temperature Structure. *J. R. Kuhn.* 331, L131, 122-A8 (1988)

Helioseismic Observations of the Solar Cycle. *J. R. Kuhn.* 339, L45, 58-D12 (1989)

Dwarf Spheroidal Galaxies and Resonant Orbital Coupling. *J. R. Kuhn & R. H. Miller.* 341, L41, 99-E10 (1989)

Consistency in Trends in Helioseismic Data and Photospheric Temperature Data through the Solar Cycle. *Philip R. Goode & J. R. Kuhn.* 356, 310, 102-G7 (1990)

KUIJPERS, J. An *EXOSAT* Observation of Quiescent and Flare Coronal X-Ray Emission from Algol. *N. E. White, J. L. Culhane, A. N. Parmar, B. J. Kellett, S. Kahn, G. H. J. van den Oord, & J. Kuijpers.* 301, 262, 16-F14 (1986)

On the Controversy Concerning Turbulent Bremsstrahlung. *D. B. Melrose & J. Kuijpers.* 323, 338, 156-F7 (1987)

KUIN, N. P. M. A Semiempirical Model for the Red Supergiant's Wind in Zeta Aurigae Systems. *N. P. M. Kuin & I. A. Ahmad.* 344, 856, 144-G10 (1989)

KUIPER, T. B. H. The Dust and Gas Surrounding LkHα 101. *R. O. Redman, T. B. H. Kuiper, J. J. Lorre, & J. E. Gunn.* 303, 300, 44-C14 (1986)

Detection of the $2_0 \rightarrow 3_{-1}$ Transition of $^{13}CH_3OH$ at 14.8 GHz. *T. B. H. Kuiper, W. L. Peters III, F. F. Gardner, J. B. Whiteoak, & J. E. Reynolds.* 340, L41, 75-F9 (1989)

KULKARNI, S. R. Deep Radio Synthesis Images of Globular Clusters. *S. R. Kulkarni, W. M. Goss, A. Wolszczan, & J. Middleditch.* 363, L5, 187-A10 (1990)

KULKARNI, SHRINIVAS R. A Search for Vibrationally Excited Interstellar H_2^+. *W. L. H. Shuter, D. R. W. Williams, Shrinivas R. Kulkarni, & C. Heiles.* 306, 255, 84-B1 (1986)

Optical Identification of Binary Pulsars: Implications for Magnetic Field Decay in Neutron Stars. *Shrinivas R. Kulkarni.* 306, L85, 94-A5 (1986)

The Origin and Energetics of CTB 80. *J. Jeff Hester & Shrinivas R. Kulkarni.* 331, L121, 121-G9 (1988)

Neutral Hydrogen Absorption Observations toward High-Dispersion Measure Pulsars. *T. R. Clifton, D. A. Frail, Shrinivas R. Kulkarni, & J. M. Weisberg.* 333, 332, 141-F7 (1988)

Birthrates of Low-Mass Binary Pulsars and Low-Mass X-Ray Binaries. *Shrinivas R. Kulkarni & Ramesh Narayan.* 335, 755, 181-A3 (1988)

Optical Imagery and Spectrophotometry of CTB 80. *J. Jeff Hester & Shrinivas R. Kulkarni.* 340, 362, 71-E4 (1989)

The Local Galactic Magnetic Field. *Richard J. Rand & Shrinivas R. Kulkarni.* 343, 760, 128-F1 (1989)

The Black Hole A0620−00 and Its Accretion Disk. *Helen M. Johnston, Shrinivas R. Kulkarni, & J. B. Oke.* 345, 492, 155-C1 (1989)

M51: Molecular Spiral Arms, Giant Molecular Associations, and Superclouds. *Richard J. Rand & Shrinivas R. Kulkarni.* 349, L43, 24-B6 (1990)

The Distribution of Warm Ionized Gas in NGC 891. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 352, L1, 55-A7 (1990)

The Pulsar Content of Globular Clusters. *Shrinivas R. Kulkarni, Ramesh Narayan, & Roger W. Romani.* 356, 174, 101-C1 (1990)

The Distribution of Warm Ionized Gas in NGC 891: Erratum. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 362, L35, 174-D7 (1990) (Orig. paper in 352, L1, 55-A7 (1990))

KULLAVANIJAYA, A. The Line Profile Variations of Epsilon Persei. I. Evidence for Multimode Nonradial Pulsations. *D. R. Gies & A. Kullavanijaya.* 326, 813, 42-E1 (1988)

KULSRUD, R. M. An Analytic Treatment for a Model of Superclustering in the Universe. *R. M. Kulsrud & S. C. Cowley.* 346, 546, 174-C8 (1989)

KUMAGAI, SHIOMI. Gamma Rays, X-Rays, and Optical Light from the Cobalt and the Neutron Star in SN 1987A. *Shiomi Kumagai, Toshikazu Shigeyama, Ken'ichi Nomoto, Masayuki Itoh, Jun Nishimura, & Sachiko Tsuruta.* 345, 412, 154-C5 (1989)

KUMAR, C. KRISHNA. Diffuse Interstellar Bands in Low Color Excess Stars. III. *C. Krishna Kumar.* 306, 38, 81-E8 (1986)

The Accretion of Interplanetary Dust by Ap and Am Stars. *C. Krishna Kumar, Joseph M. Davila, & R. Rajan Sundar.* 337, 414, 22-D9 (1989)

KUMAR, PAWAN. The Interaction of Acoustic Radiation with Turbulence. *Peter Goldreich & Pawan Kumar.* 326, 462, 37-D1 (1988)

Distribution Functions for the Time-averaged Energies of Stochastically Excited Solar p-Modes. *Pawan Kumar, Joel Franklin, & Peter Goldreich.* 328, 879, 72-G3 (1988)

Nonlinear Interactions among Solar Acoustic Modes. *Pawan Kumar & Peter Goldreich.* 342, 558, 107-E9 (1989)

Wave Generation by Turbulent Convection. *Peter Goldreich & Pawan Kumar.* 363, 694, 192-F7 (1990)

KUNDE, VIRGIL, G. The Abundance and Distribution of Water Vapor in Jupiter's Atmosphere. *Gordon L. Bjoraker, Harold P. Larson, & Virgil Kunde, G.* 311, 1058, 159-D7 (1986)

KUNDU, M. The Radio Signatures of a Slow Coronal Mass Ejection: Electron Acceleration at Slow-Mode Shocks? *M. Kundu, N. Gopalswamy, S. White, P. Cargill, E. J. Schmahl, & E. Hildner.* 347, 505, 188-C3 (1989)

KUNDU, M. R. Solar Microbursts at Meter-Dekameter Wavelengths. *M. R. Kundu, T. E. Gergely, A. Szabo, R. Loiacono, & S. M. White.* 308, 436, 112-F13 (1986)

Microwave Observations of Flare Stars UV Ceti, AT Microscopii, and AU Microscopii. *M. R. Kundu, P. D. Jackson, S. M. White, & M. Melozzi.* 312, 822, 12-A1 (1987)

The Plasma and Magnetic Field Properties of Coronal Loops Observed at High Spatial Resolution. *D. F. Webb, G. D. Holman, J. M. Davis, M. R. Kundu, & R. K. Shevgaonkar.* 315, 716, 48-D11 (1987)

Simultaneous VLA Observations of a Flare at 6 and 20 Centimeter Wavelengths. *T. Velusamy, M. R. Kundu, E. J. Schmahl, & M. McCabe.* 319, 984, 105-F4 (1987)

Simultaneous 2 and 6 Centimeter Wavelength Observations of a Solar Flare Using the VLA. *M. R. Kundu, T. Velusamy, & S. M. White.* 321, 593, 128-E9 (1987)

Current Loop Coalescence Model of Solar Flares. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 321, 1031, 135-F10 (1987)

Coronal Bright Points at 6 and 20 Centimeter Wavelengths. *M. R. Kundu, E. J. Schmahl, & Q.-J. Fu.* 325, 905, 30-D8 (1988)

Current Loop Coalescence Model of Solar Flares: Erratum. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 329, 517, 80-G1 (1988) (Orig. paper in 321, 1031, 135-F10 (1987))

Variability of Metric Emission from the Sun. *R. K. Shevgaonkar, M. R. Kundu, & P. D. Jackson.* 329, 982, 87-G5 (1988)

Detection of the dMe Flare Star YZ Canis Minoris Simultaneously at 20 and 90 Centimeter Wavelengths. *M. R. Kundu & R. K. Shevgaonkar.* 334, 1001, 167-E9 (1988)

Microwave Evidence for Large-Scale Changes Associated with a Filament Eruption. *M. R. Kundu, E. J. Schmahl, & Q.-J. Fu.* 336, 1078, 15-G1 (1989)

Time Variability of Solar Active Regions at Centimeter Wavelengths. *R. K. Shevgaonkar & M. R. Kundu.* 342, 586, 107-G14 (1989)

Microwave and X-Ray Observations of a Major Confined Solar Flare. *E. J. Schmahl, J. T. Schmelz, J. L. R. Saba, K. T. Strong, & M. R. Kundu.* 358, 654, 131-F2 (1990)

First High Spatial Resolution Interferometric Observations of Solar Flares at Millimeter Wavelengths. *M. R. Kundu, S. M. White, N. Gopalswamy, J. H. Bieging, & G. J. Hurford.* 358, L69, 133-E8 (1990)

The Observation of an Unusually Fast Type IV Plasmoid. *N. Gopalswamy & M. R. Kundu.* 365, L31, 212-D1 (1990)

KUNDU, MUKUL R. Solar Coronal Bright Points Observed with the VLA. *Shadia R. Habbal, Robert S. Ronan, George L. Withbroe, Raghunath K. Shevgaonkar, & Mukul R. Kundu.* 306, 740, 92-E12 (1986)

Narrow-Band Radio Flares from Red Dwarf Stars. *Stephen M. White, Mukul R. Kundu, & Peter D. Jackson.* 311, 814, 156-F7 (1986)

Dynamic Spectrum of a Radio Flare on UV Ceti. *Peter D. Jackson, Mukul R. Kundu, & Stephen M. White.* 316, L85, 62-C14 (1987)

Soft X-Ray, Microwave, and Hard X-Ray Emission from a Solar Flare: Implications for Electron Heating and Acceleration in Current Channels. *Gordon D. Holman, Mukul R. Kundu, & Sharad R. Kane.* 345, 1050, 163-E8 (1989)

A VLA Survey of Nearby Flare Stars. *Stephen M. White, Peter D. Jackson, & Mukul R. Kundu.* 71, 895, 48-E9 (1989)

KUNIEDA, H. Optically Thin Hot Plasma near the Galactic Center: Mapping Observations of the 6.7 keV Iron Line. *S. Yamauchi, M. Kawada, K. Koyama, H. Kunieda, & Y. Tawara.* 365, 532, 214-G5 (1990)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

KUNIMORI, H. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

KUNKEL, W. E. Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

KUNKEL, WILLIAM E. Light Echoes and Transient Luminescence near SN 1987A. *Arlin P. S. Crotts, William E. Kunkel, & Patrick J. McCarthy.* 347, L61, 199-B5 (1989)

KUNOW, H. A Multispacecraft Study of the Injection and Transport of Solar Energetic Particles. *J. Beeck, G. M. Mason, D. C. Hamilton, G. Wibberenz, H. Kunow, D. Hovestadt, & B. Klecker.* 322, 1052, 151-D14 (1987)

KUNTH, D. I Zw 18 and the Existence of Very Metal Poor Blue Compact Dwarf Galaxies. *D. Kunth & W. L. W. Sargent.* 300, 496, 8-E6 (1986)

KUNTH, DANIEL. High-Resolution Spectra of 24 Low-Redshift QSOs: The Properties of Mg II Absorption Systems. *David Tytler, A. Boksenberg, Wallace L. W. Sargent, Peter Young, & Daniel Kunth.* 64, 667, 27-B8 (1987)

KUNTZ, K. D. The Properties and Environment of the Giant, Infrared-Luminous Galaxy IRAS 09104+4109. *S. G. Kleinmann, Donald Hamilton, W. C. Keel, C. G. Wynn-Williams, S. A. Eales, E. E. Becklin, & K. D. Kuntz.* 328, 161, 63-F11 (1988)

KUO, T. T. S. Electron Capture and β-Decay in Presupernova Stars. *M. B. Aufderheide, G. E. Brown, T. T. S. Kuo, D. B. Stout, & P. Vogel.* 362, 241, 172-B9 (1990)

KUPFERMAN, P. N. Halos around Planetary Nebulae. *David C. Jewitt, G. E. Danielson, & P. N. Kupferman.* 302, 727, 38-E8 (1986)

KURAMOTO, T. Reaction Cross Section for "Solar Flare Neutrinos" with ^{37}Cl and ^{16}O Targets. *M. Fukugita, Y. Kohyama, K. Kubodera, & T. Kuramoto.* 337, L59, 25-E11 (1989)

KURFESS, J. D. *SMM* Detection of Diffuse Galactic 511 keV Annihilation Radiation. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Messina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 326, 717, 41-E1 (1988)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation: Erratum. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Massina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 331, 1078, 120-G4 (1988) (Orig. paper in 326, 717, 41-E1 (1988))

KURIYAMA, HIROTADA. Laboratory Microwave Spectrum of $^{13}CH_3OH$. *Hirotada Kuriyama, Kojiro Takagi, Harutoshi Takeo, & Chi Matsumura.* 311, 1073, 159-E9 (1986)

KURKI-SUONIO, H. Deviation from Periodicity in the Large-Scale Distribution of Galaxies. *H. Kurki-Suonio, G. J. Mathews, & G. M. Fuller.* 356, L5, 103-B11 (1990)

KURKI-SUONIO, HANNU. Big Bang Nucleosynthesis and the Quark-Hadron Transition. *Hannu Kurki-Suonio, Richard A. Matzner, Keith A. Olive, & David N. Schramm.* 353, 406, 69-B1 (1990)

KUROKAWA, H. Plasma Motions in an Emerging Flux Region. *G. E. Brueckner, J.-D. F. Bartoe, J. W. Cook, K. P. Dere, D. Socker, H. Kurokawa, & M. McCabe.* 335, 986, 183-E2 (1988)

KURSINSKI, EMIL R. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

KURT, V. G. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros,*

W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko. 301, 641, 22-F1 (1986)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

KURTZ, D. W. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

KURTZ, DONALD W. Frequency Analysis of the Rapidly Oscillating Peculiar A Star HD 60435. *Jaymie M. Matthews, Donald W. Kurtz, & William H. Wehlau.* 300, 348, 4-G7 (1986)

The Exotic Helium Variable PG 1346+082. *M. A. Wood, D. E. Winget, R. E. Nather, Frederic V. Hessman, James Liebert, Donald W. Kurtz, F. Wesemael, & G. Wegner.* 313, 757, 25-B1 (1987)

The Rich *p*-Mode Spectrum of the Rapidly Oscillating Peculiar A Star HD 60435. *Jaymie M. Matthews, Donald W. Kurtz, & William H. Wehlau.* 313, 782, 25-C12 (1987)

KURTZ, M. J. An X-Ray and Optical Study of the Cluster of Galaxies Abell 754. *D. Fabricant, T. C. Beers, M. J. Geller, P. Gorenstein, J. P. Huchra, & M. J. Kurtz.* 308, 530, 114-F4 (1986)

KURTZ, MICHAEL J. The Shane-Wirtanen Counts: Systematics and Two-Point Correlation Function. *Valérie de Lapparent, Michael J. Kurtz, & Margaret J. Geller.* 304, 585, 62-C5 (1986)

A Combined Optical/X-Ray Study of the Galaxy Cluster Abell 2256. *Daniel G. Fabricant, Stephen M. Kent, & Michael J. Kurtz.* 336, 77, 2-A5 (1989)

KURUCZ, R. L. A New Sunspot Umbral Model and Its Variation with the Solar Cycle. *P. Maltby, E. H. Avrett, M. Carlsson, O. Kjeldseth-Moe, R. L. Kurucz, & R. Loeser.* 306, 284, 84-D9 (1986)

KURUCZ, ROBERT L. Theoretical *uvbyβ* Indices. *John B. Lester, Richard O. Gray, & Robert L. Kurucz.* 61, 509, 24-D6 (1986)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. II. The Field Star X Arietis. *Rodney V. Jones, Bruce W. Carney, David W. Latham, & Robert L. Kurucz.* 312, 254, 3-F5 (1987)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. III. The Field Star SW Draconis. *Rodney V. Jones, Bruce W. Carney, David W. Latham, & Robert L. Kurucz.* 314, 605, 36-B10 (1987)

OH and CH Continuous Opacity in Solar and Stellar Atmospheres. *Robert L. Kurucz, Ewine F. van Dishoeck, & S. P. Tarafdar.* 322, 992, 150-F13 (1987)

Relative Abundance Determinations in Extremely Metal Poor Giants. II. Transition Probabilities and the Abundance Determinations. *Ruth C. Peterson, Robert L. Kurucz, & Bruce W. Carney.* 350, 173, 27-C1 (1990)

KUSNETSOV, A. V. A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

KUSUNOSE, MASAAKI. Relativistic Thermal Plasmas: Time Development of Electron-Positron Pair Concentration. *Masaaki Kusunose.* 321, 186, 124-C3 (1987)

Winds from Hot Accretion Disks. *Fumio Takahara, Robert Rosner, & Masaaki Kusunose.* 346, 122, 167-E6 (1989)

KUTNER, MARC L. Molecular Clouds in the Outer Galaxy. I. Far-Infrared Observations. *Kathryn N. Mead, Marc L. Kutner, Neal J. Evans II, Paul M. Harvey, & Bruce A. Wilking.* 312, 321, 4-D4 (1987)

VLA Observations of H_2CO in Absorption against the Cosmic Background Radiation: Clumps in the S140 Molecular Cloud. *Neal J. Evans II, Marc L. Kutner, & Lee G. Mundy.* 323, 145, 154-F3 (1987)

Molecular Clouds in the Outer Galaxy. III. CO Studies of Individual Clouds. *Kathryn N. Mead & Marc L. Kutner.* 330, 399, 94-F3 (1988)

Cosmic Background Radiation Temperature at 2.64 Millimeters. *Philippe Crane, Dennis J. Hegyi, Marc L. Kutner, & Nazzareno Mandolesi.* 346, 136, 167-F11 (1989)

The Nature of the Radio and Infrared Sources in S140. *Neal J. Evans II, Lee G. Mundy, Marc L. Kutner, & D. L. DePoy.* 346, 212, 168-F10 (1989)

Molecular Clouds in the Outer Galaxy. IV. Studies of Star Formation. *Kathryn N. Mead, Marc L. Kutner, & Neal J. Evans II.* 354, 492, 82-E1 (1990)

A Precise Measurement of the Cosmic Background Radiation at 1.32 Millimeters. *E. Palazzi, N. Mandolesi, Philippe Crane, Marc L. Kutner, J. C. Blades, & Dennis J. Hegyi.* 357, 14, 111-C3 (1990)

Testing Star Formation Theories: VLA Observations of H_2CO in the Bok Globule B335. *Shudong Zhou, Neal J. Evans II, Harold M. Butner, Marc L. Kutner, Chun Ming Leung, & Lee G. Mundy.* 363, 168, 184-C1 (1990)

CO($J = 2 \rightarrow 1$) Study of Molecular Clouds in the Southwest Arm of M31. *Marc L. Kutner, Frances Verter, & Lee J Rickard.* 365, 195, 208-E11 (1990)

KUTTER, G. SIEGFRIED. Stellar Accretion of Matter Possessing Angular Momentum. *G. Siegfried Kutter & Warren M. Sparks.* 321, 386, 126-D7 (1987)

Nuclear Runaways in a C/O White Dwarf Accreting H-rich Material Possessing Angular Momentum. *Warren M. Sparks & G. Siegfried Kutter.* 321, 394, 126-E1 (1987)

Modeling the Classical Nova Outburst. I. Exploring the Physics of a New Mechanism. *G. Siegfried Kutter & Warren M. Sparks.* 340, 985, 80-E6 (1989)

KUTYREV, A. S. Probable Detection of Hα Emission from a Very High Velocity Cloud in Cetus. *A. S. Kutyrev & R. J. Reynolds.* 344, L9, 140-B1 (1989)

KUWASHIMA, FUMIYOSHI. Enhancement of Thermonuclear Reaction Rates in Extremely Dense Stellar Plasmas. *Naoki Itoh, Fumiyoshi Kuwashima, & Hiroharu Munakata.* 362, 620, 178-D9 (1990)

KUZNETSOV, A. V. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806−20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

KWAN, JOHN. On the Correlation between X-Ray Flux and Hydrogen Line Intensities in Quasars and Active Galactic Nuclei. *John Kwan.* 305, 679, 76-C8 (1986)

The Physical and Kinematic Structures of Molecular Clouds. I. Model. *John Kwan & D. B. Sanders.* 309, 783, 129-G7 (1986)

The Spatial and Mass Distributions of Molecular Clouds and Spiral Structures. *John Kwan & Francisco Valdes.* 315, 92, 41-A2 (1987)

Hydrogen Line and Continuum Emission in Young Stellar Objects. I. Excitation Model. *John Kwan & José L. Alonso-Costa.* 330, 870, 102-B1 (1988)

Jets from T Tauri Stars: Spectroscopic Evidence and Collimation Mechanism. *John Kwan & Eugene Tademaru.* 332, L41, 129-E7 (1988)

Hydrogen Line and Continuum Emission in Young Stellar Objects. II. Theoretical Results and Observational Constraints. *José L. Alonso-Costa & John Kwan.* 338, 403, 38-A1 (1989)

Gasdynamics in Interacting and Merging Galaxies. *Kevin M. Olson & John Kwan.* 349, 480, 21-C1 (1990)

Elemental Abundances of the Broad Absorption-Line Gas of Quasars. *John Kwan.* 353, 123, 63-F1 (1990)

Hydrogen Line and Continuum Emission in Young Stellar Objects. III. Line Ratios and Physical Conditions. *José L. Alonso-Costa & John Kwan.* 356, 662, 108-D7 (1990)

Gasdynamics and Star Formation in Interacting and Merging Galaxies. *Kevin M. Olson & John Kwan.* 361, 426, 163-D4 (1990)

KWITTER, KAREN B. Large Planetary Nebulae and Their Significance to the Late Stages of Stellar Evolution. *James B. Kaler, Richard A. Shaw, & Karen B. Kwitter.* 359, 392, 140-G11 (1990)

KWOK, S. Unusual Infrared Line Profiles in the Post–Asymptotic Giant Branch Star HD 56126. *S. Kwok, Bruce J. Hrivnak, & T. R. Geballe.* 360, L23, 149-D6 (1990)

KWOK, SUN. Ground-based and *IRAS* Observations of Compact Planetary Nebulae. *Sun Kwok, Bruce J. Hrivnak, & E. F. Milone.* 303, 451, 46-A11 (1986)

Ground-based Observations of *IRAS* Candidates for Late Asymptotic Giant Branch Stars. *Sun Kwok, Bruce J. Hrivnak, & R. T. Boreiko.* 312, 303, 4-B14 (1987)

On the Contribution of Interstellar Extinction to the 10 Micron Dust Feature in OH/IR Stars. *Kevin Volk & Sun Kwok.* 315, 654, 47-G1 (1987)

CO Observations of *IRAS* Sources with 11.3 Micron Silicon Carbide Dust Features. *D. A. Leahy, Sun Kwok, & R. A. Arquilla.* 320, 825, 118-F13 (1987)

Ground-based Infrared Observations of Variable IRAS Sources as Candidates for Late Asymptotic Giant Branch Stars. *Sun Kwok, Bruce J. Hrivnak, & R. T. Boreiko.* 321, 975, 135-B10 (1987)

Spectral Evolution of Asymptotic Giant Branch Stars. *Kevin Volk & Sun Kwok.* 331, 435, 111-B1 (1988)

The High-Latitude F Supergiant IRAS 18095+2704: A Proto–Planetary Nebula. *Bruce J. Hrivnak, Sun Kwok, & Kevin M. Volk.* 331, 832, 118-A11 (1988)

CO Observations of *IRAS* Sources with 11.3 Micron Silicon Carbide Dust Features: Erratum. *D. A. Leahy, Sun Kwok, & R. A. Arquilla.* 332, 1092, 136-D8 (1988) (Orig. paper in 320, 825, 118-F13 (1987))

The Transition from Oxygen-rich to Carbon Stars. *S. Josephine Chan & Sun Kwok.* 334, 362, 158-E3 (1988)

Evolution of Proto–Planetary Nebulae. *Kevin Volk & Sun Kwok.* 342, 345, 105-B3 (1989)

A 21 Micron Emission Feature in Four Proto–Planetary Nebulae. *Sun Kwok, Kevin M. Volk, & Bruce J. Hrivnak.* 345, L51, 157-E5 (1989)

A Study of Several F and G Supergiant-like Stars with Infrared Excesses as Candidates for Proto–Planetary Nebulae. *Bruce J. Hrivnak, Sun Kwok, & Kevin M. Volk.* 346, 265, 169-D5 (1989)

On the Formation of Carbon Stars. *Greg L. Bryan, Kevin Volk, & Sun Kwok.* 365, 301, 210-B7 (1990)

KYLAFIS, NIKOLAOS D. On Pumping Astronomical Masers. *Nikolaos D. Kylafis & Colin Norman.* 300, L73, 13-E11 (1986)

Dust Distribution in Spiral Galaxies. *Nikolaos D. Kylafis & John N. Bahcall.* 317, 637, 73-A13 (1987)

On Pumping the Strong Water Maser Sources. *Nikolaos D. Kylafis & Colin Norman.* 323, 346, 156-G1 (1987)

Effects of Electron Scattering on the Oscillations of an X-Ray Source. *Nikolaos D. Kylafis & George S. Klimis.* 323, 678, 162-B8 (1987)

Collisional Pumping of OH Masers in the $^2\Pi_{1/2}$ Ladder. *Nikolaos D. Kylafis & Colin A. Norman.* 350, 209, 27-E12 (1990)

LA, DAILE. The Existence of a Limiting Wavelength of the Small-Scale Temperature Fluctuations Measurements. *Daile La.* 341, 575, 92-D5 (1989)

LABAY, JAVIER. The Final Stages of Evolution of Cold, Mass-accreting White Dwarfs. *Margarita Hernanz, Jordi Isern, Ramon Canal, Javier Labay, & Robert Mochkovitch.* 324, 331, 4-G3 (1988)

Can C+O White Dwarfs Form Neutron Stars? *Ramon Canal, Domingo García, Jordi Isern, & Javier Labay.* 356, L51, 110-C1 (1990)

LABONTE, B. J. Spectra of Plages on the Sun and Stars. I. Ca II H and K Lines. *B. J. LaBonte.* 62, 229, 34-D1 (1986)

Spectra of Plages on the Sun and Stars. II. The H I Hα Line. *B. J. LaBonte.* 62, 241, 34-D12 (1986)

Acoustic Absorption by Sunspots. *D. C. Braun, T. L. Duvall, Jr., & B. J. LaBonte.* 319, L27, 100-C9 (1987)

The Absorption of High-Degree *p*-Mode Oscillations in and around Sunspots. *D. C. Braun, T. L. Duvall, Jr., & B. J. LaBonte.* 335, 1015, 184-A1 (1988)

The Spatial Distribution of *p*-Mode Absorption in Active Regions. *D. C. Braun, B. J. LaBonte, & T. L. Duvall, Jr.* 354, 372, 78-F3 (1990)

LACEY, C. G. Dark Clusters in Galactic Halos? *B. J. Carr & C. G. Lacey.* 316, 23, 50-C6 (1987)

LACEY, CEDRIC G. The Structure of Shocks with Thermal Conduction and Radiative Cooling. *Cedric G. Lacey.* 326, 769, 42-A11 (1988)

Energetic Constraints on Spectral Distortions of the Microwave Background. *Cedric G. Lacey & George B. Field.* 330, L1, 96-C5 (1988)

Gravitational Instability in a Primordial Collapsing Gas Cloud. *Cedric G. Lacey.* 336, 612, 10-B7 (1989)

LACHIÈZE-REY, M. Voids in the Center for Astrophysics Catalog. *F. R. Bouchet & M. Lachièze-Rey.* 302, L37, 40-D1 (1986)

LACHIÈZE-REY, MARC. Void Probabilities in the Galaxy Distribution: Scaling and Luminosity Segregation. *Sophie Maurogordato & Marc Lachièze-Rey.* 320, 13, 108-B5 (1987)

LACY, J. H. High-Resolution [Ne II] Observations of the Ionized Filaments in the Galactic Center. *E. Serabyn, J. H. Lacy, C. H. Townes, & R. Bharat.* 326, 171, 34-A5 (1988)

Discovery of Interstellar Acetylene. *J. H. Lacy, Neal J. Evans II, J. M. Achtermann, D. E. Bruce, J. F. Arens, & J. S. Carr.* 342, L43, 109-D7 (1989)

LACY, JOHN. Direct Imaging at 12 Microns of the Star-forming Region W51 IRS 2. *John Bally, John F. Arens, Roger Ball, Robert Becker, & John Lacy.* 323, L73, 158-F1 (1987)

LADA, C. J. High-Resolution *IRAS* Observations of the Rho Ophiuchi Cloud Core. *E. T. Young, C. J. Lada, & B. A. Wilking.* 304, L45, 66-B9 (1986)

The Bipolar Molecular Outflow of V645 Cygni. *A. Schulz, J. H. Black, C. J. Lada, B. L. Ulich, R. N. Martin, R. L. Snell, & N. J. Erickson.* 341, 288, 87-D9 (1989)

LADA, CHARLES J. Submillimeter Observations of CS in M17. *Ronald L. Snell, Neal R. Erickson, Paul F. Goldsmith, Bobby L. Ulich, Charles J. Lada, Robert N. Martin, & Andreas Schulz.* 304, 780, 64-F4 (1986)

Masses and Energetics of High-Velocity Molecular Outflows: Erratum. *Michael Margulis & Charles J. Lada.* 306, 767, 92-G12 (1986) (Orig. paper in 299, 925, 138-A9 (1985))

Spectroscopic Evidence for Infall around an Extraordinary IRAS Source in Ophiuchus. *Christopher K. Walker, Charles J. Lada, Erick T. Young, Philip R. Maloney, & Bruce A. Wilking.* 309, L47, 125-F9 (1986)

An Unbiased Survey for High-Velocity Gas in the Monoceros OB1 Molecular Cloud. *Michael Margulis & Charles J. Lada.* 309, L87, 131-E11 (1986)

Spectral Evolution of Young Stellar Objects. *Fred C. Adams, Charles J. Lada, & Frank H. Shu.* 312, 788, 11-E3 (1987)

The Disks of T Tauri Stars with Flat Infrared Spectra. *Fred C. Adams, Charles J. Lada, & Frank H. Shu.* 326, 865, 43-A11 (1988)

Observations of Molecular and Atomic Clouds in M31. *Charles J. Lada, Michael Margulis, Yoshiaki Sofue, Naomasa Nakai, & Toshihiro Handa.* 328, 143, 63-E7 (1988)
An Unusual Outflow around IRAS 16293–2422. *Christopher K. Walker, Charles J. Lada, Erick T. Young, & Michael Margulis.* 332, 335, 126-G4 (1988)
The Small Molecular Cloud toward HD 169454. *Buell T. Jannuzi, John H. Black, Charles J. Lada, & Ewine F. van Dishoeck.* 332, 995, 135-D2 (1988)
Molecular Outflows in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, & Ronald L. Snell.* 333, 316, 141-E4 (1988)
IRAS Observations of the ρ Ophiuchi Infrared Cluster: Spectral Energy Distributions and Luminosity Function. *Bruce A. Wilking, Charles J. Lada, & Erick T. Young.* 340, 823, 78-F3 (1989)
Young Stellar Objects in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, & Erick T. Young.* 345, 906, 161-G2 (1989)
1.3 Millimeter Continuum Observations of Cold Molecular Cloud Cores. *Christopher K. Walker, Fred C. Adams, & Charles J. Lada.* 349, 515, 21-F7 (1990)
A Spectacular Molecular Outflow in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, Tetsuo Hasegawa, Saeko S. Hayashi, Masahiko Hayashi, Norio Kaifu, Ian Gatley, Thomas P. Greene, & Erick T. Young.* 352, 615, 58-F1 (1990)
Observations of the Dense Gas in the IRAS 16293–2422 Outflow System. *Christopher K. Walker, John E. Carlstrom, John H. Bieging, Charles J. Lada, & Erick T. Young.* 364, 173, 196-B12 (1990)
LADA, E. A. The Luminosity Function in NGC 2023. *D. L. DePoy, E. A. Lada, Ian Gatley, & R. Probst.* 356, L55, 110-C5 (1990)
LADA, ELIZABETH. Detection of Shock-enhanced CH Emission in Bipolar Outflows. *Göran Sandell, Loris Magnani, & Elizabeth Lada.* 329, 920, 87-B10 (1988)
LADA, ELIZABETH A. High-Latitude Molecular Clouds: Completeness of the Local Sample and Implications for Molecular Surveys. *Loris Magnani, Elizabeth A. Lada, & Leo Blitz.* 301, 395, 18-B9 (1986)
Two Populations of Diffuse Molecular Clouds. *Elizabeth A. Lada & Leo Blitz.* 326, L69, 41-C9 (1988)
CH Observations of Diffuse Molecular Clouds. *Loris Magnani, Elizabeth A. Lada, Göran Sandell, & Leo Blitz.* 339, 244, 53-A4 (1989)
LADD, EDWIN F. Simultaneous Measurements of Sunspot Umbral Oscillations in the Photosphere, Chromosphere, and Transition Region. *John H. Thomas, Bruce W. Lites, Joseph B. Gurman, & Edwin F. Ladd.* 312, 457, 5-G9 (1987)
LAGRANGE-HENRI, A. M. The Location of the Ca II Ions in the Beta Pictoris Disk. *L. M. Hobbs, A. M. Lagrange-Henri, R. Ferlet, A. Vidal-Madjar, & D. E. Welty.* 334, L41, 161-E1 (1988)
LAHAV, OFER. Constraints on a Hot Intergalactic Medium from the X-Ray and Submillimeter Backgrounds. *Ofer Lahav, Abraham Loeb, & Christopher F. McKee.* 349, L9, 19-B6 (1990)
Relative Bias Parameters from Angular Correlations of Optical and IRAS Galaxies. *Ofer Lahav, Robert J. Nemiroff, & Tsvi Piran.* 350, 119, 26-E1 (1990)
Local Gravity and Peculiar Velocity: Probes of Cosmological Models. *Ofer Lahav, Nick Kaiser, & Yehuda Hoffman.* 352, 448, 56-F3 (1990)
LAI, WAN. Absolute Magnitudes and Kinematic Properties of RR Lyrae Stars. *Suzanne L. Hawley, William H. Jefferys, Thomas G. Barnes III, & Wan Lai.* 302, 626, 37-D11 (1986)
LAICO, D. E. Photometric Measurements of Solar Irradiance Variations Due to Sunspots. *G. A. Chapman, A. D. Herzog, D. E. Laico, J. K. Lawrence, & M. S. Templer.* 343, 547, 124-G1 (1989)
LAIDLER, V. G. Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)
LAIDLER, VICTORIA G. The Composite Image of Sanduleak −69°202, Candidate Precursor to Supernova 1978A in the Large Magellanic Cloud. *Nolan R. Walborn, Barry M. Lasker, Victoria G. Laidler, & You-Hua Chu.* 321, L41, 129-E4 (1987)
LAIRD, JOHN B. Abundances in Field Dwarf Stars. III. Magnesium Abundances. *John B. Laird.* 303, 718, 50-D3 (1986)
LAKE, GEORGE. Formation of Elliptical Galaxies and Massive Halos. *R. G. Carlberg, George Lake, & C. A. Norman.* 300, L1, 7-A4 (1986)
A Dynamical Study of Merger Remnants. *George Lake & Alan Dressler.* 310, 605, 140-D9 (1986)
The H I Distribution and Kinematics in Four Low-Luminosity Elliptical Galaxies. *George Lake, R. A. Schommer, & J. H. van Gorkom.* 314, 57, 28-E12 (1987)
QSO Absorption-Line Systems Are a Natural Part of Galaxy Formation. *George Lake.* 327, 99, 48-B1 (1988)
The Self-Enrichment of Globular Clusters. *Siobahn Morgan & George Lake.* 339, 171, 52-B8 (1989)
Testing Modifications of Gravity. *George Lake.* 345, L17, 157-B9 (1989)
High Dark Matter Densities and the Formation of Extreme Dwarf Galaxies. *George Lake.* 356, L43, 110-B6 (1990)
An Empirical Look at the Origin of the Hubble Sequence. *George Lake.* 364, L1, 199-A7 (1990)
LAKE, KAYLL. Shell Crossings and the Tolman Model: Erratum. *Charles Hellaby & Kayll Lake.* 300, 461, 6-B3 (1986) (Orig. paper in 290, 381, 28-C1 (1985))
Development of Voids in the Thin-Wall Approximation. II. Radiation-filled Voids in a Flat Background. *Rick Pim & Kayll Lake.* 304, 75, 54-F10 (1986)
Hydrostatic Confinement of Radio Jets. *Kayll Lake & Patrick Boucher.* 314, 507, 35-B2 (1987)
Development of Voids in the Thin-Wall Approximation. III. Radiation-filled Voids in a Nonflat Background. *Rick Pim & Kayll Lake.* 330, 625, 99-C10 (1988)
LAKHINA, G. S. Coherent Radiation Mechanism for Cometary Kilometric Radiation. *G. S. Lakhina & B. Buti.* 327, 1020, 60-A13 (1988)
Radiation from Accelerated Alfvén Solitons in Inhomogeneous Plasmas. *G. S. Lakhina, B. Buti, & N. L. Tsintsadze.* 352, 747, 60-C3 (1990)
LAL, N. The Charge State of the Anomalous Cosmic-Ray Component. *F. B. McDonald, N. Lal, J. S. Perko, T. T. von Rosenvinge, & W. R. Webber.* 333, L109, 153-A1 (1988)
LAMB, D. Q. Synchrotron Emission and Gamma-Ray Bursts. *J. J. Brainerd & D. Q. Lamb.* 313, 231, 17-D14 (1987)
X-Ray and Ultraviolet Radiation from Accreting White Dwarfs. IV. Two-Temperature Treatment with Electron Thermal Conduction. *J. N. Imamura, R. H. Durisen, D. Q. Lamb, & G. J. Weast.* 313, 298, 18-B14 (1987)
An Independent Method for Determining the Age of the Universe. *D. E. Winget, C. J. Hansen, James Liebert, H. M. Van Horn, G. Fontaine, R. E. Nather, S. O. Kepler, & D. Q. Lamb.* 315, L77, 49-B1 (1987)
S-Matrix Calculation of the Triple-Alpha Reaction. *Ikko Fushiki & D. Q. Lamb.* 317, 368, 68-A1 (1987)
Synchronization-induced Period Gaps and Ultra-Short Periods in Magnetic Cataclysmic Binaries. *D. Q. Lamb & Fulvio Melia.* 321, L133, 137-C11 (1987)
Dynamical Mass Transfer in Cataclysmic Binaries. *Fulvio Melia & D. Q. Lamb.* 321, L139, 137-D2 (1987)
New Insights from a Global View of X-Ray Bursts. *Ikko Fushiki & D. Q. Lamb.* 323, L55, 158-D10 (1987)
Discovery of Radio Emission from AE Aquarii. *J. A. Bookbinder & D. Q. Lamb.* 323, L131, 164-D7 (1987)
V1500 Cygni: Discovery of a Magnetic Nova. *H. S. Stockman, Gary D. Schmidt, & D. Q. Lamb.* 332, 282, 126-C4 (1988)
LAMB, DON Q. Gamma-Ray Burst Spectra from Photon-deficient Compton Scattering by Nonthermal Electrons. *Andrzej A. Zdziarski & Don Q. Lamb.* 309, L79, 131-E4 (1986)
Physical Processes in Photon-starved Nonthermal Pair Plasmas. *Andrzej A. Zdziarski, Paolo S. Coppi, & Don Q. Lamb.* 357, 149, 113-A1 (1990)
Energetics and Dynamics of Resonant and Nonresonant Scattering in Strong Magnetic Fields. *Don Q. Lamb, John C. L. Wang, & Ira M. Wasserman.* 363, 670, 192-D9 (1990)
LAMB, F. K. Vela X-1 Pulse Timing. I. Determination of the Neutron Star Orbit. *P. E. Boynton, J. E. Deeter, F. K. Lamb, & G. Zylstra.* 307, 545, 103-A1 (1986)

Apsidal Advance in Vela X-1. *J. E. Deeter, P. E. Boynton, F. K. Lamb, & G. Zylstra.* 314, 634, 36-E1 (1987)

Effect of an Electron Scattering Cloud on X-Ray Oscillations Produced by Beaming. *J. Brainerd & F. K. Lamb.* 317, L33, 71-C6 (1987)

Power Spectra of Quasi-periodic Oscillations in Luminous X-Ray Stars. *N. Shibazaki & F. K. Lamb.* 318, 767, 89-C11 (1987)

Vela X-1 Pulse Timing. II. Variations in Pulse Frequency. *J. E. Deeter, P. E. Boynton, F. K. Lamb, & G. Zylstra.* 336, 376, 5-G7 (1989)

LAMB, FREDERICK K. Neutron Star Evolution with Internal Heating. *Noriaki Shibazaki & Frederick K. Lamb.* 346, 808, 177-D1 (1989)

LAMB, G. M. Structure in the Nucleus of NGC 1068 at 10 Microns. *R. Tresch-Fienberg, G. G. Fazio, D. Y. Gezari, W. F. Hoffmann, G. M. Lamb, P. K. Shu, & C. R. McCreight.* 312, 542, 8-G2 (1987)

LAMB, J. 223 GHz VLBI Observations of 3C 273. *S. Padin, D. P. Woody, M. W. Hodges, A. E. E. Rogers, D. T. Emerson, P. R. Jewell, J. Lamb, A. Perfetto, & M. C. H. Wright.* 360, L11, 149-C2 (1990)

LAMB, R. C. Pulsed TeV Gamma Rays Detected from Hercules X-1 during X-Ray Source Eclipse. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 308, L11, 113-F6 (1986)

Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 309, 114, 121-C4 (1986)

Reexamination of the *SAS 2* Cygnus X-3 Data. *C. E. Fichtel, D. J. Thompson, & R. C. Lamb.* 319, 362, 97-A9 (1987)

TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

LAMB, SUSAN A. *IRAS* Observations of an Optically Selected Sample of Interacting Galaxies. *Howard A. Bushouse, Susan A. Lamb, & Michael W. Werner.* 335, 74, 171-A8 (1988)

LAMBAS, DIEGO GARCÍA. A Simple Model for Dissipative Galaxy Formation. *Mario G. Abadi, Diego García Lambas, & Mirta B. Mosconi.* 360, 343, 150-E3 (1990)

LAMBERT, D. L. Spectroscopic Observations of Nova Cygni 1975: The Coronal Line Region Revisited. *G. J. Ferland, D. L. Lambert, & J. H. Woodman.* 60, 375, 5-C6 (1986)

Spectroscopic Observations of Nova Cygni 1975: The Coronal Line Region Revisited: Erratum. *G. J. Ferland, D. L. Lambert, & J. H. Woodman.* 62, 939, 44-C8 (1986) (Orig. paper in 60, 375, 5-C6 (1986))

Velocity Structure of Stellar Atmospheres: R Scuti. *David Mozurkewich, R. D. Gehrz, K. H. Hinkle, & D. L. Lambert.* 314, 242, 30-F12 (1987)

The Carbon Chemistry in Interstellar Clouds toward Moderately Reddened Stars. *S. R. Federman & D. L. Lambert.* 328, 777, 71-E7 (1988)

High-Resolution Spectroscopy of the C_2 Swan 0–0 Band from Comet P/Halley. *D. L. Lambert, Y. Sheffer, A. C. Danks, C. Arpigny, & P. Magain.* 353, 640, 71-G6 (1990)

LAMBERT, DAVID L. Carbon Abundances in Halo Dwarfs. *Jocelyn Tomkin, Christopher Sneden, & David L. Lambert.* 302, 415, 32-G1 (1986)

Lithium in Late-Type Giants. IV. The Subgiant CH Stars. *Verne V. Smith & David L. Lambert.* 303, 226, 43-E10 (1986)

On the CH^+ Ion in Diffuse Interstellar Clouds. *David L. Lambert & Anthony C. Danks.* 303, 401, 45-E1 (1986)

Isotopic Abundances of Magnesium in the Metal-poor Subgiant ν Indi. *David L. Lambert & Andrew McWilliam.* 304, 436, 58-E11 (1986)

The Chemical Composition of Carbon Stars. I. Carbon, Nitrogen, and Oxygen in 30 Cool Carbon Stars in the Galactic Disk. *David L. Lambert, Bengt Gustafsson, Kjell Eriksson, & Kenneth H. Hinkle.* 62, 373, 36-C6 (1986)

The 10830 Å Chromospheric Line of Helium in Bright Stars. *George T. O'Brien, Jr., & David L. Lambert.* 62, 899, 43-G7 (1986)

Heavy-Element Abundances in the Mild Barium Stars Omicron Virginis and 16 Serpentis. *Jocelyn Tomkin & David L. Lambert.* 311, 819, 156-F12 (1986)

The Chemical Composition of Red Giants. II. Helium Burning and the *s*-Process in the MS and S Stars. *Verne V. Smith & David L. Lambert.* 311, 843, 157-A9 (1986)

Oxygen Isotopic Abundances in Evolved Stars. III. 26 Carbon Stars. *Michael J. Harris, David L. Lambert, Kenneth H. Hinkle, Bengt Gustafsson, & Kjell Eriksson.* 316, 294, 53-B14 (1987)

A Search for $^{14}C^{16}O$ in the Atmospheres of Evolved Stars. *Michael J. Harris & David L. Lambert.* 318, 868, 90-D12 (1987)

Neutron-Exposure Variations in MS and S Stars, and the Implications for *s*-Process Nucleosynthesis. *Verne V. Smith, David L. Lambert, & Andrew McWilliam.* 320, 862, 119-C3 (1987)

Further Observations of the He I 10830 Å Chromospheric Line in Stars. *David L. Lambert.* 65, 255, 32-A1 (1987)

Oxygen Isotopic Abundances in Evolved Stars. IV. Five K Giants. *Michael J. Harris, David L. Lambert, & Verne V. Smith.* 325, 768, 29-A5 (1988)

s-Process–enriched Cool Stars with and without Technetium: Clues to Asymptotic Giant Branch and Binary Star Evolution. *Verne V. Smith & David L. Lambert.* 333, 219, 140-E1 (1988)

Lithium in Lower–Main-Sequence Stars of the α Persei Cluster. *Suchitra Balachandran, David L. Lambert, & John R. Stauffer.* 333, 267, 141-A9 (1988)

The Peculiar Supergiant HR 4049. *David L. Lambert, Kenneth H. Hinkle, & R. Earle Luck.* 333, 917, 150-D1 (1988)

A Search for Lithium-rich Giant Stars. *Jeffery A. Brown, Christopher Sneden, David L. Lambert, & Edward Dutchover, Jr.* 71, 293, 39-A1 (1989)

Synthesis of Lithium and *s*-Process Elements in Small Magellanic Cloud Asymptotic Giant Branch Stars. *Verne V. Smith & David L. Lambert.* 345, L75, 165-B1 (1989)

The Chemical Composition of Red Giants. III. Further CNO Isotopic and *s*-Process Abundances in Thermally Pulsing Asymptotic Giant Branch Stars. *Verne V. Smith & David L. Lambert.* 72, 387, 7-C11 (1990)

Carbon, Nitrogen, and Oxygen Abundances in the Chemically Peculiar Stars of the Upper Main Sequence. *Scott W. Roby & David L. Lambert.* 73, 67, 17-G9 (1990)

Chemical Compositions of Four High-Latitude A–F Supergiants. *R. Earle Luck, Howard E. Bond, & David L. Lambert.* 357, 188, 113-D3 (1990)

CN, CH, and CH^+ toward ζ Ophiuchi. *David L. Lambert, Yaron Sheffer, & Philippe Crane.* 359, L19, 138-B11 (1990)

On the Occurrence of Enhanced Lithium in Magellanic Cloud Red Giants. *Verne V. Smith & David L. Lambert.* 361, L69, 168-E3 (1990)

The Interstellar $^{12}C/^{13}C$ Ratio toward μ Normae. *Philippe Crane, David L. Lambert, & Eliana Palazzi.* 363, 192, 184-E1 (1990)

The Chemical Composition of Three Lambda Bootis Stars. *Kimberley Venn & David L. Lambert.* 363, 234, 185-A9 (1990)

LAMERS, H. J. G. L. M. The "SEI" Method for Accurate and Efficient Calculations of Line Profiles in Spherically Symmetric Stellar Winds. *H. J. G. L. M. Lamers, M. Cerruti-Sola, & M. Perinotto.* 314, 726, 37-E6 (1987)

High-Resolution Ultraviolet Observations of Interstellar Lines toward ζ Persei Observed with the Balloon-borne Ultraviolet Spectrometer. *Theodore P. Snow, H. J. G. L. M. Lamers, & Charles L. Joseph.* 321, 952, 135-A1 (1987)

Fast Winds from the Central Stars of NGC 6543 and NGC 6826. *M. Perinotto, M. Cerruti-Sola, & H. J. G. L. M. Lamers.* 337, 382, 22-B1 (1989)

LAMERS, HENNY J. G. L. M. The Relationship between the Eddington Limit, the Observed Upper Luminosity Limit for Massive Stars, and the Luminous Blue Variables. *Henny J. G. L. M. Lamers & Edward L. Fitzpatrick.* 324, 279, 4-C7 (1988)

Fast Variations in the Ultraviolet Resonance Lines of α Camelopardalis (O9.5 Ia): Evidence for Blobs in the Wind.

Henny J. G. L. M. Lamers, Theodore P. Snow, Cornelis de Jager, & A. Langerwerf. 325, 342, 23-A2 (1988)

Grain Ultraviolet Extinction Properties of Recently Discovered Post–Asymptotic Giant Branch Stars. *Richard H. Buss, Jr., Henny J. G. L. M. Lamers, & Theodore P. Snow, Jr.* 347, 977, 195-F3 (1989)

LAMING, J. M. Electron Beam Diagnostics in Radiation from H- and He-like Ions in Solar Flares. *J. M. Laming.* 357, 275, 114-D11 (1990)

Emission-Line Polarization as an Equilibration Diagnostic for Nonradiative Shock Fronts. *J. M. Laming.* 362, 219, 171-G9 (1990)

LAMONTAGNE, R. Spectroscopic and Polarimetric Parameters of the Runaway WN7 Binary System HD 197406: Is the Secondary an X-Ray–quiet Black Hole? *L. Drissen, R. Lamontagne, A. F. J. Moffat, P. Bastien, & M. Seguin.* 304, 188, 56-A1 (1986)

Polarimetic Observations of the WN7 Binary CQ Cephei. *L. Drissen, A. F. J. Moffat, P. Bastien, R. Lamontagne, & S. Tapia.* 306, 215, 83-E12 (1986)

Studies of Hot B Subdwarfs. V. Continuing Investigation of the C, N, and Si Abundance Patterns in the Atmospheres of sdB Stars. *R. Lamontagne, F. Wesemael, & G. Fontaine.* 318, 844, 90-C2 (1987)

Photometry and Polarimetry of the Unusual WN5 Star EZ Canis Majoris. *L. Drissen, C. Robert, R. Lamontagne, A. F. J. Moffat, N. St-Louis, N. van Weeren, & A. M. van Genderen.* 343, 426, 123-C13 (1989)

Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 351, 271, 41-D2 (1990)

Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object: Erratum. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 357, 291, 114-F6 (1990) (Orig. paper in 351, 271, 41-D2 (1990))

LAMONTAGNE, ROBERT. An Eight Year Spectroscopic Orbit for the WC7+O4 Wolf-Rayet Binary HD 193793: Toward Solving the Mystery of the Infrared Outbursts. *Anthony F. Moffat, Robert Lamontagne, Peredur M. Williams, Jiri Horn, & Wilhelm Seggewiss.* 312, 807, 11-F8 (1987)

Spectroscopic Evidence for Rapid Blob Ejection in Wolf-Rayet Stars. *Anthony F. J. Moffat, Laurent Drissen, Robert Lamontagne, & Carmelle Robert.* 334, 1038, 168-A5 (1988)

Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)

LAMY, P. L. On the Validity of Effective-Medium Theories in the Case of Light Extinction by Inhomogeneous Dust Particles. *J.-M. Perrin & P. L. Lamy.* 364, 146, 195-G4 (1990)

LANCE, CATHERINE M. Portrait of a Novel Nova: V1500 Cygni. *Catherine M. Lance, Marshall L. McCall, & Alan K. Uomoto.* 66, 151, 3-F1 (1988)

Young, High-Velocity A Stars. I. Rotational Velocities and a Catalog of Early-Type Stars at the South Galactic Pole. *Catherine M. Lance.* 68, 463, 29-G1 (1988)

Young, High-Velocity A Stars. II. Misidentified, Ejected, or Unique? *Catherine M. Lance.* 334, 927, 166-F3 (1988)

LANDAU, ROBERT. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

LANDE, K. A Measurement of the Cosmic-Ray Primary Composition between 3×10^{13} and 3×10^{15} eV Using Underground Muons. *D. Cebula, S. C. Corbató, T. Daily, D. B. Kieda, K. Lande, C. K. Lee, & M. L. Cherry.* 358, 637, 131-D5 (1990)

LANDECKER, T. L. VRO 42.05.01: A Supernova Remnant Reenergizing an Interstellar Cavity. *S. Pineault, T. L. Landecker, & D. Routledge.* 315, 580, 47-A10 (1987)

The Halo and Magnetic Field of the Coma Cluster of Galaxies. *K.-T. Kim, P. P. Kronberg, P. E. Dewdney, & T. L. Landecker.* 355, 29, 87-D1 (1990)

LANDMAN, DONALD A. Physical Conditions in the Cool Parts of Prominences and Spicules: The Effects of Model Atom Level Truncation on the Derived Plasma Parameters. *Donald A. Landman.* 305, 546, 73-C2 (1986)

O λ7774 Diagnostic for Quiescent Prominences. *Nancy S. Brickhouse & Donald A. Landman.* 313, 463, 20-A13 (1987)

LANDSMAN, W. B. *IUE* Observations of Interstellar Hydrogen and Deuterium toward Alpha Centauri B. *W. B. Landsman, J. Murthy, R. C. Henry, H. W. Moos, J. L. Linsky, & J. L. Russell.* 303, 791, 51-B12 (1986)

IUE Observations of Hydrogen and Deuterium in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, W. B. Landsman, J. L. Linsky, A. Vidal-Madjar, & C. Gry.* 315, 675, 48-A10 (1987)

LANDSTREET, J. D. Magnetic Field Measurements of Helium-strong Stars. *David A. Bohlender, Douglas N. Brown, J. D. Landstreet, & Ian B. Thompson.* 323, 325, 156-E8 (1987)

The Magnetic Field and Abundance Distribution Geometry of the Peculiar A Star 53 Camelopardalis. *J. D. Landstreet.* 326, 967, 44-B7 (1988)

The Magnetic Field and Abundance Distribution Geometry of the Peculiar B Star HD 215441. *J. D. Landstreet, P. K. Barker, D. A. Bohlender, & M. S. Jewison.* 344, 876, 145-B2 (1989)

The Very Strong and Unusual Magnetic Field of the Bp Silicon Star HD 133880. *J. D. Landstreet.* 352, L5, 55-B1 (1990)

Optical Spectrum Variations of the Helium-strong Star HD 64740. *David A. Bohlender & J. D. Landstreet.* 358, 274, 125-E1 (1990)

The Weak Magnetic Field of the Ap Star Epsilon Ursae Majoris. *David A. Bohlender & J. D. Landstreet.* 358, L25, 127-C11 (1990)

LANDSTREET, JOHN D. The Evolution of the Magnetic Fields of Ap Stars: Magnetic Observations of Stars in the Scorpius-Centaurus Association. *Ian B. Thompson, Douglas N. Brown, & John D. Landstreet.* 64, 219, 19-B11 (1987)

The Discovery of Magnetically Controlled Circumstellar Matter in the Helium-weak Stars HD 5737 and HD 79158. *Steven N. Shore, Douglas N. Brown, George Sonneborn, John D. Landstreet, & David A. Bohlender.* 348, 242, 4-A5 (1990)

LANE, ADAIR P. Shocked Molecular Hydrogen and Jets in Star-forming Clouds. II. *Adair P. Lane & John Bally.* 310, 820, 142-G9 (1986)

H_2O Masers in Circumstellar Envelopes. *Adair P. Lane, K. J. Johnston, P. F. Bowers, J. H. Spencer, & P. J. Diamond.* 323, 756, 163-A8 (1987)

Far-Infrared Spectroscopy of the DR 21 Star Formation Region. *Adair P. Lane, M. R. Haas, D. J. Hollenbach, & E. F. Erickson.* 361, 132, 158-F1 (1990)

LANE, M. C. Atmospheric Abundances of Classical Metallic-Line A Stars: The Visual Spectral Region. *M. C. Lane & John B. Lester.* 65, 137, 29-D1 (1987)

LANEY, DAVE. Infrared Photometry and Spectroscopy of Supernova 1986g in NGC 5128–Centaurus A. *Jay A. Frogel, Brooke Gregory, Kimiaki Kawara, Dave Laney, M. M. Phillips, Don Terndrup, Frederick Vrba, & Albert E. Whitford.* 315, L129, 49-E11 (1987)

LANG, F. L. Solar Flare γ-Ray Line Shapes. *C. Werntz, F. L. Lang, & Y. E. Kim.* 73, 349, 22-E5 (1990)

LANG, J. On the Dependence of Solar Flare X-Ray Spectral Line Intensity Ratios of Highly Ionized Sulfur, Calcium, and Iron on Electron Temperature, Differential Emission Measure, and Atomic Physics. *G. A. Doschek, A. Fludra, R. D. Bentley, J. Lang, K. J. H. Phillips, & T. Watanabe.* 358, 665, 131-G3 (1990)

LANG, KENNETH R. Structure of a Solar Active Region from RATAN 600 and Very Large Array Observations. *Sh. B. Akhmedow, V. N. Borovik, G. B. Gelfreikh, V. M. Bogod, A. N. Korzhavin, Z. E. Petrov, V. N. Dikij, Kenneth R. Lang, & Robert F. Willson.* 301, 460, 18-G9 (1986)

Narrow-Band, Slowly Varying Decimetric Radiation from the Dwarf M Flare Star YZ Canis Minoris. *Kenneth R. Lang & Robert F. Willson.* 302, L17, 35-B5 (1986)

Millisecond Radio Spikes from the Dwarf M Flare Star AD Leonis. *Kenneth R. Lang & Robert F. Willson.* 305, 363, 71-B9 (1986)

VLA Observations of Compact, Variable Sources on the Sun. *Robert F. Willson & Kenneth R. Lang.* 308, 443, 112-G7 (1986)

Multiple Wavelength Microwave Observations of the RS Canum Venaticorum Stars UX Arietis, HR 1099, HR 5110, and II Pegasi. *Robert F. Willson & Kenneth R. Lang.* 312, 278, 4-A2 (1987)

VLA Observations of a Solar Noise Storm. *Kenneth R. Lang & Robert F. Willson.* 319, 514, 98-G8 (1987)

Simultaneous *SMM* Flat Crystal Spectrometer and Very Large Array Observations of Solar Active Regions. *Kenneth R. Lang, Robert F. Willson, Kermit L. Smith, & Keith T. Strong.* 322, 1035, 151-C4 (1987)

Solar Active Region Physical Parameters Inferred from a Thermal Cyclotron Line and Soft X-Ray Spectral Lines. *Kenneth R. Lang, Robert F. Willson, Kermit L. Smith, & Keith T. Strong.* 322, 1044, 151-D3 (1987)

Narrow-Band, Slowly Varying Decimetric Radiation from the Dwarf M Flare Star YZ Canis Minoris. II. *Kenneth R. Lang & Robert F. Willson.* 326, 300, 35-D11 (1988)

Ultraviolet and Radio Flares from UX Arietis and HR 1099. *Kenneth R. Lang & Robert F. Willson.* 328, 610, 69-G1 (1988)

Radio Emission from Quiescent Solar Filaments at 91.6 Centimeter Wavelength. *Kenneth R. Lang & Robert F. Willson.* 344, L73, 148-C14 (1989)

Time-correlated Bursts from Widely Separated Solar Active Regions at 91.6 Centimeter Wavelength. *Kenneth R. Lang & Robert F. Willson.* 344, L77, 148-D5 (1989)

Impulsive Microwave Burst and Solar Noise Storm Emission Resolved with the VLA. *Robert F. Willson, Kenneth R. Lang, & Margaret Liggett.* 350, 856, 36-E10 (1990)

Multiple-Wavelength Analysis of Energy Release during a Solar Flare: Thermal and Nonthermal Electron Populations. *Robert F. Willson, Karl-Ludwig Klein, Alain Kerdraon, Kenneth R. Lang, & Gerard Trottet.* 357, 662, 120-G1 (1990)

LANGANKE, K. A New Estimate of the $^{19}Ne(p,\gamma)^{20}Na$ and $^{15}O(\alpha,\gamma)^{19}Ne$ Reaction Rates at Stellar Energies. *K. Langanke, M. Wiescher, W. A. Fowler, & J. Görres.* 301, 629, 22-E3 (1986)

The $^{14}C(\alpha,\gamma)^{18}O$ Reaction at Astrophysical Energies. *C. Funck & K. Langanke.* 344, 46, 133-E7 (1989)

LANGE, A. E. The Submillimeter Spectrum of the Cosmic Background Radiation. *T. Matsumoto, S. Hayakawa, H. Matsuo, H. Murakami, S. Sato, A. E. Lange, & P. L. Richards.* 329, 567, 82-G5 (1988)

LANGER, NORBERT. The Production of ^{26}Al in Supermassive Stars and the Gamma-Ray Line Flux from the Galactic Center. *Wolfgang Hillebrandt, Friedrich-Karl Thielemann, & Norbert Langer.* 321, 761, 132-G7 (1987)

LANGER, W. D. Infrared Limb Brightening in the Barnard 5 Cloud. *C. A. Beichman, R. W. Wilson, W. D. Langer, & P. F. Goldsmith.* 332, L81, 137-D10 (1988)

Dust and Gas Emission in Barnard 5. *W. D. Langer, R. W. Wilson, P. F. Goldsmith, & C. A. Beichman.* 337, 355, 21-F10 (1989)

LANGER, WILLIAM D. Molecular Outflows, Gas Density Distribution, and the Effects of Star Formation in the Dark Cloud Barnard 5. *Paul F. Goldsmith, William D. Langer, & Robert W. Wilson.* 303, L11, 47-B2 (1986)

Multiple Star Formation and the Dynamical Evolution of B335. *William D. Langer, Margaret A. Frerking, & Robert W. Wilson.* 306, L29, 86-C1 (1986)

Observations and Analysis of HDO in Interstellar Clouds. *Ellen L. Moore, William D. Langer, & G. Richard Huguenin.* 306, 682, 92-A7 (1986)

Filamentary Structure in the Orion Molecular Cloud. *John Bally, William D. Langer, Antony A. Stars, & Robert W. Wilson.* 312, L45, 14-B12 (1987)

The Structure and Dynamics of Bok Globule B335. *Margaret A. Frerking, William D. Langer, & Robert W. Wilson.* 313, 320, 18-D10 (1987)

Radio Observations of Carbon Monoxide toward Zeta Ophiuchi: Velocity Structure, Isotopic Abundances, and Physical Properties. *William D. Langer, Alfred E. Glassgold, & Robert W. Wilson.* 322, 450, 142-G9 (1987)

Ion-Molecule Chemistry of Dense Interstellar Clouds: Nitrogen-, Oxygen-, and Carbon-bearing Molecule Abundances and Isotopic Ratios. *William D. Langer & T. E. Graedel.* 69, 241, 4-D11 (1989)

Silicon Chemistry in Interstellar Clouds. *William D. Langer & A. E. Glassgold.* 352, 123, 51-E5 (1990)

$^{12}C/^{13}C$ Isotope Ratio across the Galaxy from Observations of $^{13}C^{18}O$ in Molecular Clouds. *William D. Langer & Arno A. Penzias.* 357, 477, 118-E1 (1990)

LANGERWERF, A. Fast Variations in the Ultraviolet Resonance Lines of α Camelopardalis (O9.5 Ia): Evidence for Blobs in the Wind. *Henny J. G. L. M. Lamers, Theodore P. Snow, Cornelis de Jager, & A. Langerwerf.* 325, 342, 23-A2 (1988)

LANGHOFF, STEPHEN R. Theoretical Study of the Dissociation Energy and the Red and Violet Band Systems of CN. *Charles W. Bauschlicher, Jr., Stephen R. Langhoff, & Peter R. Taylor.* 332, 531, 128-G11 (1988)

Theoretical Study of the Dipole Moment Function of the $X^2\Sigma^+$ State of CN. *Stephen R. Langhoff & Charles W. Bauschlicher, Jr.* 340, 620, 75-A1 (1989)

Theoretical Study of the Spectroscopy of ZrO. *Stephen R. Langhoff & Charles W. Bauschlicher, Jr.* 349, 369, 18-D8 (1990)

LANGMEIER, A. The Complex Cross-Spectra of Cygnus X-2 and GX 5-1. *M. van der Klis, G. Hasinger, L. Stella, A. Langmeier, J. van Paradijs, & W. H. G. Lewin.* 319, L13, 100-B2 (1987)

EXOSAT Observations of 4U 1705–44: Type I Bursts and Persistent Emission. *A. Langmeier, M. Sztajno, G. Hasinger, J. Trümper, & M. Gottwald.* 323, 288, 156-B13 (1987)

X-Ray Bursts from 4U 1705–44: Another Case of Burst Properties Dependent on the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. Langmeier, G. Hasinger, W. H. G. Lewin, & J. van Paradijs.* 339, 1044, 64-E8 (1989)

Detection of a Strong Excess Noise Component in the Low State of 4U 1705–44. *A. Langmeier, G. Hasinger, & J. Trümper.* 340, L21, 75-E1 (1989)

LANGSTON, G. I. 5 GHz Radio Structure and Optical Identifications of Sources from the MG Survey. II. Maps and Finding Charts. *C. R. Lawrence, C. L. Bennett, J. N. Hewitt, G. I. Langston, S. E. Klotz, B. F. Burke, & K. C. Turner.* 61, 105, 18-A5 (1986)

The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

LANGSTON, GLEN. The Third MIT–Green Bank 5 GHz Survey. *Mark Griffith, Glen Langston, Mike Heflin, Sam Conner, Joseph Lehár, & Bernard Burke.* 74, 129, 31-E9 (1990)

LANGSTON, GLEN I. The Second MIT–Green Bank 5 GHz Survey. *Glen I. Langston, Michael B. Heflin, Sam R. Conner, Joseph Lehár, Chris L. Carrilli, & Bernard F. Burke.* 72, 621, 11-A1 (1990)

Faint Radio Sources and Gravitational Lensing. *Glen I. Langston, Samuel R. Conner, Michael B. Heflin, Joseph Lehár, & Bernard F. Burke.* 353, 34, 62-E1 (1990)

LANZA, ANTONIO. Baroclinic Toroidal Figures of Equilibrium. *Peter Amendt, Antonio Lanza, & Marek A. Abramowicz.* 343, 437, 123-D12 (1989)

Nonlinear Superposition of Solutions to Self-gravitating Fluid Equations. *Peter Amendt & Antonio Lanza.* 350, 597, 33-E10 (1990)

Relativistic Effects in Superluminal Jets and Neutron Star Winds. *Marek A. Abramowicz, George F. R. Ellis, & Antonio Lanza.* 361, 470, 164-A1 (1990)

LANZAFAME, G. Molecules Synthesized by Cosmic Rays in Cometary Nuclei: A Tool to Estimate Their Low-Energy Spectrum. *V. Pirronello & G. Lanzafame.* 342, 527, 107-B13 (1989)

The Effects of Nonequilibrium Ionization on the Radiative Losses of the Solar Corona. *D. Spadaro, R. A. Zappalà, S. K. Antiochos, G. Lanzafame, & G. Noci.* 362, 370, 173-F9 (1990)

LANZEROTTI, L. J. Experimental Study of Erosion of Methane Ice by Energetic Ions and Some Considerations for Astrophysics. *L. J. Lanzerotti, W. L. Brown, & K. J. Marcantonio.* 313, 910, 26-F7 (1987)

LANZETTA, KENNETH M. An Absorption-Line Survey of 32 QSOs at Red Wavelengths: Properties of the Mg II Absorbers. *Kenneth M. Lanzetta, David A. Turnshek, & Arthur M. Wolfe.* 322, 739, 148-A2 (1987)

An Investigation of Lyman-Limit Absorption in QSO Spectra: Indirect Evidence for Evolution of the Multicomponent Nature of the Absorbers. *Kenneth M. Lanzetta.* 332, 96, 124-B8 (1988)

A Search for Molecular Hydrogen and Dust in the $z = 2.796$ Damped Lyα Absorber toward Q1337+113. *Kenneth M. Lanzetta, Arthur M. Wolfe, & David A. Turnshek.* 344, 277, 136-D13 (1989)

Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. III. Intermediate-Resolution Spectroscopy. *David A. Turnshek, Arthur M. Wolfe, Kenneth M. Lanzetta, Frank H. Briggs, Ross D. Cohen, Craig B. Foltz, Harding E. Smith, & Belinda J. Wilkes.* 344, 567, 141-E7 (1989)

Intermediate-Redshift Galaxy Halos: Results from QSO Absorption Lines. *Kenneth M. Lanzetta & David Bowen.* 357, 321, 116-E7 (1990)

LAOR, A. High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. I. Markarian 279. *D. Maoz, H. Netzer, E. Leibowitz, N. Brosch, A. Laor, H. Mendelson, S. Beck, E. Almoznino, & T. Mazeh.* 351, 75, 39-A5 (1990)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. II. NGC 5548. *H. Netzer, D. Maoz, A. Laor, H. Mendelson, N. Brosch, E. Leibowitz, E. Almoznino, S. Beck, & T. Mazeh.* 353, 108, 63-D7 (1990)

LAPASSET, EMILIO. The Giant Branch of the Open Cluster NGC 2539. *Juan J. Clarià & Emilio Lapasset.* 302, 656, 37-G1 (1986)

LAPOINTE, M. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

LAROS, J. G. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806−20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

Directivity of 100 keV–1 MeV Photon Sources in Solar Flares. *S. R. Kane, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 326, 1017, 44-F8 (1988)

A 2.2 Second Period in the 1984 August 3 Gamma-Ray Burst. *C. Kouveliotou, U. D. Desai, T. L. Cline, B. R. Dennis, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 330, L101, 104-G1 (1988)

Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

LAROSA, T. N. A Self-consistent Interpretation of the Solar Flare Extreme-Ultraviolet to Hard X-Ray Ratio in Large Events. *T. N. LaRosa & A. Gordon Emslie.* 326, 997, 44-E2 (1988)

The Spatial Structure of a Nonthermal Electron Beam: Conditions for Stabilization via Strong Turbulence. *T. N. LaRosa.* 335, 425, 175-D1 (1988)

LARSON, H. P. H_2 Spectroscopy as an Agent for Extinction Determinations: The Near-Infrared Curve for the Orion Molecular Cloud. *D. S. Davis, H. P. Larson, & R. Hofmann.* 304, 481, 59-B10 (1986)

Evidence for Interstellar H_2O in the Orion Molecular Cloud. *R. F. Knacke, H. P. Larson, & Keith S. Noll.* 335, L27, 177-C6 (1988)

LARSON, HAROLD P. The Infrared Spectrum of M8 E: Evidence for Circumstellar CO. *Harold P. Larson, Reiner Hofmann, & Uwe Fink.* 307, 295, 98-C3 (1986)

Velocity-resolved Observations of Water in Comet Halley. *Harold P. Larson, D. Scott Davis, Michael J. Mumma, & Harold A. Weaver.* 309, L95, 131-F7 (1986)

The Abundance and Distribution of Water Vapor in Jupiter's Atmosphere. *Gordon L. Bjoraker, Harold P. Larson, & Virgil Kunde, G.* 311, 1058, 159-D7 (1986)

Airborne Infrared Spectroscopy of Comet Wilson (1986l) and Comparisons with Comet Halley. *Harold P. Larson, Harold A. Weaver, Michael J. Mumma, & Siegfried Drapatz.* 338, 1106, 47-D1 (1989)

LARSON, S. Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher, H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina.* 310, L61, 138-E4 (1986)

LASCHE, G. P. High-Resolution Observations of Gamma-Ray Line Emission from SN 1987A. *W. G. Sandie, G. H. Nakano, L. F. Chase, Jr., G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, & G. P. Lasche.* 334, L91, 169-E2 (1988)

Gamma-Ray Observations of SN 1987A from Antarctica. *A. C. Rester, R. L. Coldwell, F. E. Dunnam, G. Eichhorn, J. I. Trombka, R. Starr, & G. P. Lasche.* 342, L71, 117-D1 (1989)

LASENBY, A. N. H I Absorption Measurements over the Galactic Center Radio Arc Region. *J. Lasenby, A. N. Lasenby, & F. Yusef-Zadeh.* 343, 177, 120-D7 (1989)

LASENBY, J. H I Absorption Measurements over the Galactic Center Radio Arc Region. *J. Lasenby, A. N. Lasenby, & F. Yusef-Zadeh.* 343, 177, 120-D7 (1989)

LASENBY, JOAN. High Angular Resolution Submillimeter Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, Richard Hills, & Joan Lasenby.* 350, 186, 27-D1 (1990)

LASHMORE-DAVIES, C. N. Microwave Radiation Bursts and the Suprathermal Electron Velocity Distribution in Impulsive Phase Solar Flares. *R. O. Dendy & C. N. Lashmore-Davies.* 306, 323, 84-G10 (1986)

LASKARIDES, P. G. Theoretical Isochrones for Old, Super–Metal-rich Stars. *Don A. VandenBerg & P. G. Laskarides.* 64, 103, 18-C9 (1987)

On the Horizontal Branch and the Helium Content of 47 Tucanae. *Ben Dorman, Don A. VandenBerg, & P. G. Laskarides.* 343, 750, 128-E3 (1989)

LASKER, B. M. Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)

LASKER, BARRY M. On the Distribution of Colors for Stars in the Ninth to Fifteenth Magnitude Range: Statistics and Implications for Galactic Structure. *Barry M. Lasker, Peter M. Garnavich, & Anne P. Reynolds.* 320, 502, 115-A3 (1987)

The Composite Image of Sanduleak −69°202, Candidate Precursor to Supernova 1978A in the Large Magellanic Cloud. *Nolan R.*

Walborn, Barry M. Lasker, Victoria G. Laidler, & You-Hua Chu. 321, L41, 129-E4 (1987)

The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wiśniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

LASOTA, J. P. The Period Distribution of Cataclysmic Variables. *J. M. Hameury, A. R. King, J. P. Lasota, & H. Ritter.* 327, L77, 61-D10 (1988)

LASOTA, J.-P. The Evolution of Magnetic Cataclysmic Variables. *J. M. Hameury, A. R. King, J.-P. Lasota, & H. Ritter.* 316, 275, 53-A9 (1987)

Slim Accretion Disks. *M. A. Abramowicz, B. Czerny, J.-P. Lasota, & E. Szuszkiewicz.* 332, 646, 131-C10 (1988)

The Magnetic Field of the Intermediate Polar BG Canis Minoris. *G. Chanmugam, J. Frank, A. R. King, & J.-P. Lasota.* 350, L13, 31-B11 (1990)

LASOTA, JEAN-PIERRE. Black Hole X-Ray Transients. *Jean-Marie Hameury, Andrew R. King, & Jean-Pierre Lasota.* 353, 585, 71-B11 (1990)

LATAL, H. G. Cyclotron Radiation in Strong Magnetic Fields. *H. G. Latal.* 309, 372, 124-A5 (1986)

LATHAM, DAVID W. Stellar Velocity Dispersions for Four Low-Concentration Globular Clusters. *Ruth C. Peterson & David W. Latham.* 305, 645, 76-A1 (1986)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. II. The Field Star X Arietis. *Rodney V. Jones, Bruce W. Carney, David W. Latham, & Robert L. Kurucz.* 312, 254, 3-F5 (1987)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. III. The Field Star SW Draconis. *Rodney V. Jones, Bruce W. Carney, David W. Latham, & Robert L. Kurucz.* 314, 605, 36-B10 (1987)

Rotational Velocities of Low-Mass Stars in the Hyades. *John R. Stauffer, Lee W. Hartmann, & David W. Latham.* 320, L51, 114-D12 (1987)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. V. The Field Star DH Pegasi. *Rodney V. Jones, Bruce W. Carney, & David W. Latham.* 326, 312, 35-E9 (1988)

The Southern Sky Redshift Survey. *L. Nicolaci da Costa, P. S. Pellegrini, W. L. W. Sargent, J. Tonry, M. Davis, A. Meiksin, David W. Latham, J. W. Menzies, & I. A. Coulson.* 327, 544, 54-F1 (1988)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VI. The Field Stars RS Bootis, TW Herculis, VY Serpentis, and UU Virginis, and the Absolute Magnitudes of RR Lyrae Stars. *Rodney V. Jones, Bruce W. Carney, & David W. Latham.* 332, 206, 125-D1 (1988)

The Radial Velocity and Velocity Dispersion of the Remote Globular Cluster Palomar 15: Constraints on the Mass of the Galaxy. *Ruth C. Peterson & David W. Latham.* 336, 178, 3-C10 (1989)

A Catalog of Southern Groups of Galaxies. *M. A. G. Maia, L. N. da Costa, & David W. Latham.* 69, 809, 13-F1 (1989)

First Results from a Deeper Survey of a Southern Redshift Slice. *L. Nicolaci da Costa, Paulo S. Pellegrini, C. Willmer, & David W. Latham.* 344, 20, 133-C3 (1989)

LATTANZI, M. G. Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)

The Problem of the *Hipparcos* Reference Frame. *M. G. Lattanzi, B. Bucciarelli, & P. L. Bernacca.* 73, 481, 25-A7 (1990)

Two Successful Techniques for Schmidt Plate Astrometry. *L. G. Taff, M. G. Lattanzi, & B. Bucciarelli.* 358, 359, 126-E1 (1990)

Catalog-to-Catalog Reductions. *L. G. Taff, B. Bucciarelli, & M. G. Lattanzi.* 361, 667, 166-D3 (1990)

LATTANZIO, J. C. Collisions between High-Latitude Clouds: Theory Meets Observations. *E. R. Keto & J. C. Lattanzio.* 346, 184, 168-D3 (1989)

LATTANZIO, JOHN C. The Asymptotic Giant Branch Evolution of 1.0–3.0 $M_{\odot}$ Stars as a Function of Mass and Composition. *John C. Lattanzio.* 311, 708, 155-E1 (1986)

The Formation of a 1.5 $M_{\odot}$ Carbon Star with $M_{bol} = -4.4$. *John C. Lattanzio.* 313, L15, 21-B3 (1987)

Carbon Dredge-up in Low-Mass Stars and Solar Metallicity Stars. *John C. Lattanzio.* 344, L25, 140-C5 (1989)

Photofission Production of Technetium and Synthetic Asymptotic Giant Branch Evolution. *John C. Lattanzio & Robert A. Malaney.* 347, 989, 195-G3 (1989)

LATTER, WILLIAM B. The Rotationally Modulated Zeeman Spectrum at Nearly 10^9 Gauss of the White Dwarf PG 1031+234. *William B. Latter, Gary D. Schmidt, & Richard F. Green.* 320, 308, 111-D9 (1987)

Properties of Evolved Mass-losing Stars in the Milky Way and Variations in the Interstellar Dust Composition. *Harley A. Thronson, Jr., William B. Latter, John H. Black, John Bally, & Perry Hacking.* 322, 770, 148-C5 (1987)

The Interacting Galaxy Pair NGC 4485 and NGC 4490: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, Sean Casey, William B. Latter, & D. A. Harper.* 339, 803, 61-F7 (1989)

On the Spectrum and Field Strength of the Magnetic White Dwarf GD 229. *Gary D. Schmidt, William B. Latter, & Craig B. Foltz.* 350, 758, 35-D7 (1990)

LATTIMER, JAMES M. The Birth of Neutron Stars. *Adam Burrows & James M. Lattimer.* 307, 178, 97-A10 (1986)

Neutrinos from SN 1987A. *Adam Burrows & James M. Lattimer.* 318, L63, 92-C8 (1987)

Analysis of the Neutrino Events from Supernova 1987A. *James M. Lattimer & A. Yahil.* 340, 426, 72-E1 (1989)

Rapidly Rotating Pulsars and the Equation of State. *James M. Lattimer, Madappa Prakash, Dieter Masak, & Amos Yahil.* 355, 241, 89-G10 (1990)

LAU, EUNICE L. Bounds on Dark Matter in Solar Orbit. *John D. Anderson, Eunice L. Lau, Anthony H. Taylor, Duane A. Dicus, Doris C. Teplitz, & Vigdor L. Teplitz.* 342, 539, 107-C13 (1989)

LAU, YUN-TUNG. Three-dimensional Kinematic Reconnection in the Presence of Field Nulls and Closed Field Lines. *Yun-Tung Lau & John M. Finn.* 350, 672, 34-D11 (1990)

LAUE, H. Acceleration of Protons and Electrons in the Electromagnetic Field of a Rotating Orthogonal Magnetic Dipole. *H. Laue & K. O. Thielheim.* 61, 465, 24-A5 (1986)

LAUER, TOD R. The Core of the M87 Globular Cluster System. *Tod R. Lauer & John Kormendy.* 303, L1, 47-A4 (1986)

Photometric Decomposition of the Multiple-Nucleus Galaxy NGC 6166. *Tod R. Lauer.* 311, 34, 146-D2 (1986)

The Morphology of Multiple-Nucleus, Brightest Cluster Galaxies. *Tod R. Lauer.* 325, 49, 19-E1 (1988)

The Far-Ultraviolet Spectra of Early-Type Galaxies. *David Burstein, F. Bertola, L. M. Buson, S. M. Faber, & Tod R. Lauer.* 328, 440, 67-G4 (1988)

Core Expansion in Young Clusters in the Large Magellanic Cloud. *Rebecca A. W. Elson, Kenneth C. Freeman, & Tod R. Lauer.* 347, L69, 199-C9 (1989)

LAUGHLIN, GREGORY. A Study of the White Dwarf Luminosity Function. *Icko Iben, Jr., & Gregory Laughlin.* 341, 312, 87-F9 (1989)

LAUGHLIN, K. B. Laboratory Measurement of the Pure Rotational Spectrum of Vibrationally Excited HCO^+ ($\nu = 1$) by Far-Infrared Laser Sideband Spectroscopy. *Geoffrey A. Blake, K. B. Laughlin, R. C. Cohen, Kerry L. Busarow, & R. J. Saykally.* 316, L45, 56-D7 (1987)

LAURIKAINEN, E. Star Formation in a Sample of Interacting Galaxies. *E. Laurikainen & M. Moles.* 345, 176, 151-C4 (1989)

LAVERY, RUSSELL J. Spectroscopy of Three Butcher-Oemler Clusters of Galaxies at a Redshift of 0.2. *Russell J. Lavery & J. Patrick Henry.* 304, L5, 61-A8 (1986)

Abundances in Beryllium-deficient F Stars. *Ann Merchant Boesgaard & Russell J. Lavery.* 309, 762, 129-E11 (1986)

Multiaperture Spectroscopy of Galaxies in Abell 370. *J. Patrick Henry & Russell J. Lavery.* 323, 473, 159-F9 (1987)

Two Blue Arcs Associated with the cD Galaxy of Abell 963. *Russell J. Lavery & J. Patrick Henry.* 329, L21, 81-B11 (1988)

Evidence for Galaxy-Galaxy Interactions as an Active Agent of the "Butcher-Oemler Effect" at a Redshift of 0.2. *Russell J. Lavery & J. Patrick Henry.* 330, 596, 99-A9 (1988)

LAVIGNE, J. M. A Study of $E > 4$ MeV Gamma Radiation from the Galactic Disk in the Region $-20° < l < 20°$. *J. M. Lavigne, P. Mandrou, M. Niel, B. Agrinier, E. Bonfand, & B. Parlier.* 308, 370, 112-A14 (1986)

LAVIOLETTE, PAUL A. Is the Universe Really Expanding? *Paul A. LaViolette.* 301, 544, 21-E14 (1986)

LAWLER, M. Problems with the Baade-Wesselink Method. *E. Böhm-Vitense, P. Garnavich, M. Lawler, J. Mena-Werth, S. Morgan, E. Peterson, & S. Temple.* 343, 343, 122-D4 (1989)

LAWRENCE, A. The Continuum of Type 1 Seyfert Galaxies. I. A Single Form Modified by the Effects of Dust. *Martin Ward, Martin Elvis, G. Fabbiano, N. P. Carleton, S. P. Willner, & A. Lawrence.* 315, 74, 40-F12 (1987)

The Continuum of Type 1 Seyfert Galaxies. II. Separating Thermal and Nonthermal Components. *N. P. Carleton, Martin Elvis, G. Fabbiano, S. P. Willner, A. Lawrence, & Martin Ward.* 318, 595, 87-D6 (1987)

Hard X-Ray Emission from a Type 2 Seyfert Galaxy (NGC 1068). *Martin Elvis & A. Lawrence.* 331, 161, 107-G3 (1988)

LAWRENCE, C. R. 1642+690: A Superluminal Quasar. *T. J. Pearson, P. D. Barthel, C. R. Lawrence, & A. C. S. Readhead.* 300, L25, 13-B1 (1986)

The MIT–Green Bank (MG) 5 GHz Survey. *C. L. Bennett, C. R. Lawrence, B. F. Burke, J. N. Hewitt, & J. Mahoney.* 61, 1, 16-A6 (1986)

5 GHz Radio Structure and Optical Identifications of Sources from the MG Survey. II. Maps and Finding Charts. *C. R. Lawrence, C. L. Bennett, J. N. Hewitt, G. I. Langston, S. E. Klotz, B. F. Burke, & K. C. Turner.* 61, 105, 18-A5 (1986)

The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

A Limit on the Anisotropy of the Microwave Background Radiation on Arcminute Scales. *A. C. S. Readhead, C. R. Lawrence, S. T. Myers, W. L. W. Sargent, H. E. Hardebeck, & A. T. Moffet.* 346, 566, 174-E1 (1989)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

LAWRENCE, GEOFFREY F. Photometry of Variable AFGL Sources. *Terry Jay Jones, C. O. Bryja, Robert D. Gehrz, Thomas E. Harrison, Joni J. Johnson, Dimitri I. Klebe, & Geoffrey F. Lawrence.* 74, 785, 41-E11 (1990)

LAWRENCE, J. K. Photometric Determination of Facular Contrasts near the Solar Disk Center. *J. K. Lawrence, G. A. Chapman, & A. D. Herzog.* 324, 1184, 16-E9 (1988)

Photometric Observations of Facular Contrasts near the Solar Limb. *J. K. Lawrence & G. A. Chapman.* 335, 996, 183-F2 (1988)

Photometric Measurements of Solar Irradiance Variations Due to Sunspots. *G. A. Chapman, A. D. Herzog, D. E. Laico, J. K. Lawrence, & M. S. Templer.* 343, 547, 124-G1 (1989)

Photometric Observations of the Energetics of Small Solar Active Regions. *J. K. Lawrence & G. A. Chapman.* 361, 709, 166-G12 (1990)

LAWSON, WILLIAM S. Computer Simulation of Alfvén Resonance in a Cylindrical, Axially Bounded Flux Tube. *H. R. Strauss & William S. Lawson.* 346, 1035, 180-A1 (1989)

LAZAREFF, B. Discovery of CO Emission from NGC 1275. *B. Lazareff, A. Castets, D.-W. Kim, & M. Jura.* 336, L13, 8-C9 (1989)

LAZAREFF, BERNARD. Infrared Images of Protostellar Accretion Disks: Theoretical Models. *Bernard Lazareff, Ralph E. Pudritz, & Jean-Louis Monin.* 358, 170, 124-B6 (1990)

LAZIO, T. JOSEPH. Faraday Rotation Measure Variations in the Cygnus Region and the Spectrum of Interstellar Plasma Turbulence. *T. Joseph Lazio, Steven R. Spangler, & James M. Cordes.* 363, 515, 190-E7 (1990)

LEA, SUSAN M. Radiation Gas Dynamics of Polar Cap Accretion onto Magnetized Neutron Stars: Basic Theory. *Jonathan Arons, Richard I. Klein, & Susan M. Lea.* 312, 666, 10-C1 (1987)

X-Ray Observations of Distant Blue Clusters of Galaxies. *Susan M. Lea & J. Patrick Henry.* 332, 81, 124-A2 (1988)

LEACH, ROBERT W. The Optical Counterpart of the X-Ray Source H0253+193: A Distant, High-Luminosity RS Canum Venaticorum System. *Dan P. Clemens & Robert W. Leach.* 345, 346, 153-D7 (1989)

Spectroscopic Limits on High-Redshift Lyα Emission. *James D. Lowenthal, Craig J. Hogan, Robert W. Leach, Gary D. Schmidt, & Craig B. Foltz.* 357, 3, 111-B4 (1990)

LEACOCK, R. J. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

LEAHY, D. A. CO Observations of *IRAS* Sources with 11.3 Micron Silicon Carbide Dust Features. *D. A. Leahy, Sun Kwok, & R. A. Arquilla.* 320, 825, 118-F13 (1987)

Einstein IPC Imaging and Spectral Observations of the Supernova Remnant HB 9. *D. A. Leahy.* 322, 917, 150-A1 (1987)

CO Observations of *IRAS* Sources with 11.3 Micron Silicon Carbide Dust Features: Erratum. *D. A. Leahy, Sun Kwok, & R. A. Arquilla.* 332, 1092, 136-D8 (1988) (Orig. paper in 320, 825, 118-F13 (1987))

The Pulse-Phase Dependence of the Spectrum of GX 301−2. *D. A. Leahy & M. Matsuoka.* 355, 627, 96-D1 (1990)

Radio Observation of the Supernova Remnant HB 9 at 232 MHz. *Zhiqiang Shen, Xinji Wu, Xizhen Zhang, Yijia Zheng, Zong-wei Li, & D. A. Leahy.* 356, 241, 102-B1 (1990)

HEAO 1 A-2 Low-Energy Detector X-Ray Spectra of the Cygnus Loop. *D. A. Leahy, R. Fink, & J. Nousek.* 363, 547, 191-A1 (1990)

LEAN, J. The Influence of Faculae on Total Solar Irradiance and Luminosity. *P. Foukal & J. Lean.* 302, 826, 39-F5 (1986)

Magnetic Modulation of Solar Luminosity by Photospheric Activity. *P. Foukal & J. Lean.* 328, 347, 66-A4 (1988)

LEAN, J. L. Intermediate-Term Solar Periodicities: 100–500 Days. *J. L. Lean & G. E. Brueckner.* 337, 568, 24-E8 (1989)

LEAN, JUDITH. Evolution of the 155 Day Periodicity in Sunspot Areas during Solar Cycles 12 to 21. *Judith Lean.* 363, 718, 193-A5 (1990)

LEARNED, J. G. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

LEARNER, R. C. M. The Solar Boron Abundance. *R. C. M. Learner & C. J. Harris.* 320, 926, 120-A3 (1987)

The Lowest $3d^6 4s4f$ Subconfiguration of Fe I Determined from Laboratory and Solar Fourier Transform Spectra in the Infrared. *Sveneric Johansson & R. C. M. Learner.* 354, 755, 85-F1 (1990)

LEBLANC, H. Natural Radio Lasing at Jupiter. *W. Calvert, H. Leblanc, & G. R. A. Ellis.* 335, 976, 183-D6 (1988)

LEBOEUF, J.-N. Enhanced Radiation Driven by a DC Electric Field. *T. Tajima, A. O. Benz, M. Thaker, & J.-N. Leboeuf.* 353, 666, 72-B8 (1990)

LEBOFSKY, L. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)

LEBOFSKY, M. J. New Evidence for Galaxy Luminosity Evolution. *M. J. Lebofsky & P. R. M. Eisenhardt.* 300, 151, 2-F5 (1986)

Observations of Upper-Level Hydrogen Lines in Seyfert 1 Galaxies. *Christopher W. McAlary, G. H. Rieke, M. J. Lebofsky, & John T. Stocke.* 301, 105, 15-B4 (1986)

Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

The Luminosity Function for Field Galaxies in the Infrared. *G. H. Rieke & M. J. Lebofsky.* 304, 326, 57-D13 (1986)

Color Evolution in High-Redshift Galaxies. *Peter R. M. Eisenhardt & M. J. Lebofsky.* 316, 70, 50-F14 (1987)

NGC 253 and a Proposed Sequence for Nuclear Starbursts. *G. H. Rieke, M. J. Lebofsky, & C. E. Walker.* 325, 679, 28-A9 (1988)

LEBOFSKY, MARCIA J. The Inclination Dependence of Far-Infrared Emission from Sc Galaxies. *David Burstein & Marcia J. Lebofsky.* 301, 683, 23-B2 (1986)

2 Micron Spectroscopy of Nearby Galaxies and Evidence for a Late-Phase Starburst in NGC 4736. *Constance E. Walker, Marcia J. Lebofsky, & George H. Rieke.* 325, 687, 28-B3 (1988)

A Study of Warm *IRAS* Seyfert Galaxies. *Walter F. Kailey & Marcia J. Lebofsky.* 326, 653, 40-G2 (1988)

LEBRUN, F. Nearby Molecular Clouds. II. The Cepheus Flare and the Effect of Field Stars on Galaxy Counts. *F. Lebrun.* 306, 16, 81-B7 (1986)

CO Observations of the Cepheus Flare. I. Molecular Clouds Associated with a Nearby Bubble. *I. A. Grenier, F. Lebrun, M. Arnaud, T. M. Dame, & P. Thaddeus.* 347, 231, 185-A1 (1989)

CO Observations of the Cepheus Flare. II. Gamma Rays from the Interstellar Gas and a Possible New *COS B* Source. *I. A. Grenier & F. Lebrun.* 360, 129, 146-F1 (1990)

LEBRUN, J. L. Temperature Dependence of Stark Parameters for Fe I Lines. *A. Lesage, J. L. Lebrun, & J. Richou.* 360, 737, 155-C7 (1990)

LECAR, MYRON. A Numerical Simulation of the Formation of the Terrestrial Planets. *Myron Lecar & Sverre J. Aarseth.* 305, 564, 73-D6 (1986)

LECHA, M. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

LECKBAND, JAMES A. On Evidence for Quasi-parallel and Quasi-perpendicular Acceleration in Supernova Remnants. *James A. Leckband, Steven R. Spangler, & Iver H. Cairns.* 338, 963, 45-G1 (1989)

LECKENBY, HENRY J. The Discovery of Strong Neutral Atomic Carbon Absorption Lines in the Spectrum of the DAQZ5 White Dwarf in the Ultra–Short-Period Dwarf Nova WZ Sagittae during Quiescence. *Edward M. Sion, Henry J. Leckenby, & Paula Szkody.* 364, L41, 205-D11 (1990)

LECKRONE, DAVID S. On the Signal-to-Noise Ratio in *IUE* High-Dispersion Spectra. *David S. Leckrone & Saul J. Adelman.* 71, 387, 40-B11 (1989)

LEDLOW, M. Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. III. BH Virginis. *M. Zeilik, M. Ledlow, M. Rhodes, M. J. Arévalo, & E. Budding.* 354, 352, 78-D8 (1990)

LEDLOW, M. J. Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. IV. WY Cancri. *M. Zeilik, D. A. Cox, M. J. Ledlow, M. Rhodes, P. A. Heckert, & E. Budding.* 363, 647, 192-B11 (1990)

LEE, C. K. A Measurement of the Cosmic-Ray Primary Composition between 3×10^{13} and 3×10^{15} eV Using Underground Muons. *D. Cebula, S. C. Corbató, T. Daily, D. B. Kieda, K. Lande, C. K. Lee, & M. L. Cherry.* 358, 637, 131-D5 (1990)

LEE, H. On the Application of a Spherical Infall Model to the Local Supercluster. *H. Lee, Y. Hoffman, & C. Ftaclas.* 304, L11, 61-A13 (1986)

LEE, HYUNG MOK. Cross Sections for Tidal Capture Binary Formation and Stellar Merger. *Hyung Mok Lee & Jeremiah P. Ostriker.* 310, 176, 134-A3 (1986)

Optical Properties of Interstellar Graphite and Silicate Grains: Erratum. *B. T. Draine & Hyung Mok Lee.* 318, 485, 84-C4 (1987) (Orig. paper in 285, 89, 111-A3 (1984))

Evolution of Globular Clusters Including a Degenerate Component. *Hyung Mok Lee.* 319, 772, 103-D13 (1987)

Dynamical Effects of Successive Mergers on the Evolution of Spherical Stellar Systems. *Hyung Mok Lee.* 319, 801, 103-F14 (1987)

The Evolution and Final Disintegration of Spherical Stellar Systems in a Steady Galactic Tidal Field. *Hyung Mok Lee & Jeremiah P. Ostriker.* 322, 123, 139-C6 (1987)

Stellar Encounters in the Galactic Center: Formation of Massive Stars and Close Binaries. *Hyung Mok Lee & Lorne A. Nelson.* 334, 688, 164-A1 (1988)

Black Holes or Dark Clusters in M31 and M32? *Jeremy Goodman & Hyung Mok Lee.* 337, 84, 18-B1 (1989)

Setting Limits on q_0 from Gravitational Lensing. *J. Richard Gott III, Myeong-Gu Park, & Hyung Mok Lee.* 338, 1, 33-A9 (1989)

The Disk Accretion of a Tidally Disrupted Star onto a Massive Black Hole. *John K. Cannizzo, Hyung Mok Lee, & Jeremy Goodman.* 351, 38, 38-E1 (1990)

LEE, L. C. Comet–Solar Wind Interaction through Ion-Proton Beam Instability. *Channon P. Price & L. C. Lee.* 324, 606, 8-A4 (1988)

LEE, M. G. A Soft X-Ray Flare in the Seyfert 1 Galaxy Markarian 335. *M. G. Lee, Bruce Balick, J. P. Halpern, & T. M. Heckman.* 331, 154, 107-F10 (1988)

LEE, MAN HOI. Thermal Emission from Bok Globules. *Man Hoi Lee & C. Rogers.* 317, 197, 66-B8 (1987)

Adiabatic Growth of a Black Hole in a Rotating Stellar System. *Man Hoi Lee & Jeremy Goodman.* 343, 594, 125-E4 (1989)

An Analytical Approach to Gravitational Lensing by an Ensemble of Axisymmetric Lenses. *Man Hoi Lee & David N. Spergel.* 357, 23, 111-D1 (1990)

Gravitational Lensing by a Smoothly Variable Three-dimensional Mass Distribution. *Man Hoi Lee & Bohdan Paczyński.* 357, 32, 111-D11 (1990)

LEE, MARTIN A. On the Behavior of Hydromagnetic Surface Waves. *Martin A. Lee & B. Roberts.* 301, 430, 18-E5 (1986)

Time-dependent Coronal Shock Acceleration of Energetic Solar Flare Particles. *Martin A. Lee & James M. Ryan.* 303, 829, 51-E9 (1986)

LEE, MYUNG G. *UBVR* CCD Photometry of Stars in M31. I. Baade's Field IV. *Paul Hodge, Myung G. Lee, & Mario Mateo.* 324, 172, 3-A7 (1988)

LEE, MYUNG GYOON. *UBVR* CCD Photometry of Stars in M31. II. Five Disk Fields. *Paul Hodge & Myung Gyoon Lee.* 329, 651, 83-G3 (1988)

LEE, SANG K. Laboratory Detection of HC_3NH^+ by Infrared Difference Frequency Laser Spectroscopy. *Sang K. Lee & T. Amano.* 323, L145, 164-E4 (1987)

LEE, T. J. A Broad-Band Contemporaneous Study of the Seyfert Galaxy NGC 4151. *L. Bassani, R. C. Butler, G. Di Cocco, A. Della Ventura, F. Perotti, G. Villa, R. E. Baker, A. J. Dean, & T. J. Lee.* 311, 623, 154-F1 (1986)

LEE, UMIN. Line Profile Variations Caused by Low-Frequency Nonradial Pulsations of Rapidly Rotating Stars. *Umin Lee & Hideyuki Saio.* 349, 570, 22-D1 (1990)

Excitation Mechanism of Very Slow Oscillations of the Jovian Atmosphere. *Umin Lee & Hideyuki Saio.* 359, L29, 138-C7 (1990)

Energy of Oscillation: The Role of the Negative Energy Mode in Overstable Nonradial Oscillations of Rotating Stars. *Umin Lee & Hideyuki Saio.* 360, 590, 153-E5 (1990)

LEE, YONG-SAM. The Photometric Study of an Early-Type Reverse Algol System: V1425 Cygni. *Yong-Sam Lee.* 338, 1016, 46-D6 (1989)

LEE, YOUNGUNG. Analysis of ^{12}CO and ^{13}CO Emission in a 3 Square Degree Region of the Galactic Plane between $l = 23°$ and 25°. *Youngung Lee, Ronald L. Snell, & Robert L. Dickman.* 355, 536, 95-B4 (1990)

LEE, YOUNG-WOOK. The Horizontal-Branch Stars in Globular Clusters. I. The Period-Shift Effect, the Luminosity of the Horizontal Branch, and the Age-Metallicity Relation. *Young-Wook Lee, Pierre Demarque, & Robert Zinn.* 350, 155, 27-A9 (1990)

The Evolution of Horizontal-Branch Stars: Theoretical Sequences. *Young-Wook Lee & Pierre Demarque.* 73, 709, 28-A1 (1990)

On the Sandage Period Shift Effect among Field RR Lyrae Stars. *Young-Wook Lee.* 363, 159, 184-B4 (1990)

LEEN, T. M. Oxygen Chemistry of Shocked Interstellar Clouds. III. Sulfur and Oxygen Species in Dense Clouds. *T. M. Leen & M. M. Graff.* 325, 411, 23-F5 (1988)

LEER, EGIL. Standing Shocks in the Inner Solar Wind. *Egil Leer & Thomas E. Holzer.* 358, 680, 132-A8 (1990)

LEES, JOANNA F. Velocities and Rotational Excitation of Interstellar H_2 toward π Scorpii. *Edward B. Jenkins, Joanna F. Lees, Ewine F. van Dishoeck, & Eric M. Wilcots.* 343, 785, 129-A8 (1989)

LEES, R. M. The Laboratory Millimeter- and Submillimeter-Wave Spectrum of the First Two Excited Torsional States of $^{13}CH_3OH$. *Todd Anderson, Eric Herbst, Frank C. De Lucia, K. V. L. N. Sastry, & R. M. Lees.* 68, 821, 36-A1 (1988)

LE FÈVRE, O. Peculiar Morphology of the High-Redshift Radio Galaxies 3C 13 and 3C 256 in Subarcsecond Seeing. *O. Le Fèvre, F. Hammer, L. Nottale, A. Mazure, & C. Christian.* 324, L1, 9-A4 (1988)

High Spatial Resolution Imaging of Some of the Most Distant 3CR Galaxies. *O. Le Fèvre, F. Hammer, & J. Jones.* 331, L73, 121-C3 (1988)

Imaging of Very Distant 3CR Galaxies: High Spatial Resolution Data for Seven Galaxies with $1.176 \leq z \leq 1.841$. *O. Le Fèvre & F. Hammer.* 333, L37, 152-B1 (1988)

3CR 208.1: A Radio-loud Quasar at $z = 1.02$ Gravitationally Amplified by a Foreground Seyfert Galaxy at $z = 0.159$. *O. Le Fèvre & F. Hammer.* 350, L1, 31-A7 (1990)

High Spatial Resolution Imaging of 10 3CR Galaxies with $z \geq 1$ and Statistical Evidence for Selection Effects from Gravitational Amplification. *F. Hammer & O. Le Fèvre.* 357, 38, 111-E4 (1990)

LE FÈVRE, OLIVIER. A New Wide-Separation Gravitational Lens Candidate. *Paul C. Hewett, Rachel L. Webster, Margaret E. Harding, Robert J. Jedrzejewski, Craig B. Foltz, Frederic H. Chaffee, Michael J. Irwin, & Olivier Le Fèvre.* 346, L61, 181-B12 (1989)

LEHÁR, J. 15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

LEHÁR, JOSEPH. The Second MIT–Green Bank 5 GHz Survey. *Glen I. Langston, Michael B. Heflin, Sam R. Conner, Joseph Lehár, Chris L. Carrilli, & Bernard F. Burke.* 72, 621, 11-A1 (1990)

Faint Radio Sources and Gravitational Lensing. *Glen I. Langston, Samuel R. Conner, Michael B. Heflin, Joseph Lehár, & Bernard F. Burke.* 353, 34, 62-E1 (1990)

The Third MIT–Green Bank 5 GHz Survey. *Mark Griffith, Glen Langston, Mike Heflin, Sam Conner, Joseph Lehár, & Bernard Burke.* 74, 129, 31-E9 (1990)

LEIBOWITZ, E. High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. I. Markarian 279. *D. Maoz, H. Netzer, E. Leibowitz, N. Brosch, A. Laor, H. Mendelson, S. Beck, E. Almoznino, & T. Mazeh.* 351, 75, 39-A5 (1990)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. II. NGC 5548. *H. Netzer, D. Maoz, A. Laor, H. Mendelson, N. Brosch, E. Leibowitz, E. Almoznino, S. Beck, & T. Mazeh.* 353, 108, 63-D7 (1990)

LEIBOWITZ, E. M. SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)

LEIBOWITZ, ELIA M. Photometry of SS 433 over 7 Years: Study of Two Periodicities. *Tsevi Mazeh, James C. Kemp, Elia M. Leibowitz, Herbert Meninger, & Haim Mendelson.* 317, 824, 75-A13 (1987)

LEIGHTON, R. B. Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)

CO Emission from Centaurus A. *T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, R. J. Howard, C. R. Masson, D. B. Sanders, B. Veidt, & K. Young.* 322, L73, 152-B8 (1987)

CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)

Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at $\gamma = 1.4$ Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)

LEINEMANN, R. Numerical Investigation of the Acceleration Boundary for Protons and Electrons of a Rotating Magnetized Star. *R. Leinemann & K. O. Thielheim.* 66, 19, 1-C11 (1988)

LEINERT, CH. Detection of an Infrared Companion to Haro 6–10. *Ch. Leinert & M. Haas.* 342, L39, 109-D3 (1989)

LEISAWITZ, D. On the Redistribution of OB Star Luminosity and the Warming of Nearby Molecular Clouds. *D. Leisawitz & M. G. Hauser.* 332, 954, 134-G9 (1988)

A CO Survey of Regions around 34 Open Clusters. II. Physical Properties of Cataloged Molecular Clouds. *D. Leisawitz.* 359, 319, 140-A10 (1990)

LEISAWITZ, DAVID. A CO Survey of Regions around 34 Open Clusters. *David Leisawitz, Frank N. Bash, & Patrick Thaddeus.* 70, 731, 30-A1 (1989)

LEISING, M. D. Measurement of the 0.3–8.5 MeV Galactic Gamma-Ray Spectrum from the Galactic Center Direction. *M. J. Harris, G. H. Share, M. D. Leising, R. L. Kinzer, & D. C. Messina.* 362, 135, 170-G1 (1990)

LEISING, MARK D. Positron Annihilation Gamma Rays from Novae. *Mark D. Leising & Donald D. Clayton.* 323, 159, 154-G4 (1987)

Gamma-Ray Limits on ^{22}Na Production in Novae. *Mark D. Leising, Gerald H. Share, Edward L. Chupp, & Gottfried Kanbach.* 328, 755, 71-C13 (1988)

The Gamma-Ray Light Curves of SN 1987A. *Mark D. Leising & Gerald H. Share.* 357, 638, 120-E1 (1990)

Limits on a Variable Source of 511 keV Annihilation Radiation near the Galactic Center. *Gerald H. Share, Mark D. Leising, Daniel C. Messina, & William R. Purcell.* 358, L45, 133-C3 (1990)

LEITER, DARRYL. Constraints on Possible Precursor AGN Sources of the Cosmic X-Ray Background. *Elihu Boldt & Darryl Leiter.* 322, L1, 145-A4 (1987)

LEITHERER, CLAUS. Hα as a Tracer of Mass Loss from OB Stars. *Claus Leitherer.* 326, 356, 36-B6 (1988)

Observational and Theoretical Mass-Loss Rates of O Stars in the Magellanic Clouds. *Claus Leitherer.* 334, 626, 163-C5 (1988)

Atmospheric Models for Luminous Blue Variables. *Claus Leitherer, Werner Schmutz, David C. Abbott, Wolf-Rainer Hamann, & Ulf Wessolowski.* 346, 919, 178-E8 (1989)

Observational Tests for the Evolution of Massive Stars in Nearby Galaxies. *Claus Leitherer.* 73, 1, 17-B1 (1990)

LEJEUNE, CLAUDE. Solutions of the Coagulation Equation with Time-dependent Coagulation Rates. *Claude Lejeune & Pierre Bastien.* 309, 167, 121-G2 (1986)

LELIÈVRE, G. High-Resolution Imaging of the Double QSO 2345+007: Evidence for Subcomponents. *J.-L. Nieto, S. Roques, A. Llebaria, Ch. Vanderriest, G. Lelièvre, S. di Serego Alighieri, F. D. Macchetto, & M. A. C. Perryman.* 325, 644, 27-E8 (1988)

Near-Ultraviolet Emission from 3C 66B and Its Jet. *D. Fraix-Burnet, J.-L. Nieto, G. Lelièvre, F. D. Macchetto, M. A. C. Perryman, & S. di Serego Alighieri.* 336, 121, 2-E1 (1989)

LELLOUCH, E. Detection of Arsine in Saturn. *B. Bézard, P. Drossart, E. Lellouch, G. Tarrago, & J.-P. Maillard.* 346, 509, 172-D11 (1989)

LELLOUCH, EMMANUEL. Structure of Scintillations in Neptune's Occultation Shadow. *W. B. Hubbard, Emmanuel Lellouch, Bruno Sicardy, André Brahic, Faith Vilas, Patrice Bouchet, Robert A. McLaren, & C. Perrier.* 325, 490, 24-E6 (1988)

LEMAIRE, J. Meteoric Ions in the Corona and Solar Wind. *J. Lemaire.* 360, 288, 148-E7 (1990)

LEMEN, J. R. Coronal Activity in F-, G-, and K-Type Stars. III. The Coronal Differential Emission Measure Distribution of Capella, σ^2 Coronae Borealis, and Procyon. *J. R. Lemen, R. Mewe, C. J. Schrijver, & A. Fludra.* 341, 474, 89-F11 (1989)

Coronal Activity in F-, G-, and K-Type Stars. IV. Evidence for Expanding Loop Geometries in Stellar Coronae. *C. J. Schrijver, J. R. Lemen, & R. Mewe.* 341, 484, 89-G8 (1989)

Turbulent and Directed Plasma Motions in Solar Flares. *A. Fludra, J. R. Lemen, J. Jakimiec, R. D. Bentley, & J. Sylwester.* 344, 991, 146-C7 (1989)

LEMEN, JAMES R. Conduction-driven Chromospheric Evaporation in a Solar Flare. *Dominic M. Zarro & James R. Lemen.* 329, 456, 80-B3 (1988)

Momentum Balance in Four Solar Flares. *Richard C. Canfield, Dominic M. Zarro, Thomas R. Metcalf, & James R. Lemen.* 348, 333, 5-B7 (1990)

LEMOS, J. P. S. Friedmann-like Collapsing Radiating Sphere. *R. Chan, J. P. S. Lemos, N. O. Santos, & J. A. de Fteitas Pacheco.* 342, 976, 114-D1 (1989)

LENNON, D. J. A Model Atmosphere Analysis of the Faint Early-Type Halo Star PHL 346. *F. P. Keenan, D. J. Lennon, P. J. F. Brown, & P. L. Dufton.* 307, 694, 104-E2 (1986)

LENZUNI, P. Properties and Evolution of Dust Grains in Planetary Nebulae. *P. Lenzuni, A. Natta, & N. Panagia.* 345, 306, 153-A1 (1989)

LEONARD, PETER J. T. The Mass of the Open Star Cluster M35 as Derived from Proper Motions. *Peter J. T. Leonard & David Merritt.* 339, 195, 52-D6 (1989)

The Local Galactic Escape Speed. *Peter J. T. Leonard & Scott Tremaine.* 353, 486, 70-A13 (1990)

LEOPOLD, K. R. The Microwave and Far-Infrared Spectra of the ^{18}OH Radical. *E. R. Comben, J. M. Brown, T. C. Steimle, K. R. Leopold, & K. M. Evenson.* 305, 513, 72-G9 (1986)

Frequency Measurement of the $J = 1 \leftarrow 0$ Rotational Transition of HD. *K. M. Evenson, D. A. Jennings, J. M. Brown, L. R. Zink, K. R. Leopold, M. D. Vanek, & I. G. Nolt.* 330, L135, 105-B5 (1988)

Laboratory Measurements for the Astrophysical Identification of MgH. *L. R. Zink, D. A. Jennings, K. M. Evenson, & K. R. Leopold.* 359, L65, 144-D1 (1990)

LEPAGE, T. J. The Radio Spectrum of Cyclopropene. *J. M. Vrtilek, C. A. Gottlieb, T. J. LePage, & P. Thaddeus.* 316, 826, 61-B4 (1987)

LEPP, S. Cosmic-Ray–induced Photodestruction of Interstellar Molecules in Dense Clouds. *A. Sternberg, A. Dalgarno, & S. Lepp.* 320, 676, 117-B11 (1987)

The Abundance of H_3^+ Ions in Dense Interstellar Clouds. *S. Lepp, A. Dalgarno, & A. Sternberg.* 321, 383, 126-D4 (1987)

Molecule Formation in Quasar Broad-Line Cloud Gas. *T. Kallman, S. Lepp, & P. Giovannoni.* 321, 907, 134-D10 (1987)

The C/CO Ratio in Dense Interstellar Clouds. *R. Gredel, S. Lepp, & A. Dalgarno.* 323, L137, 164-D12 (1987)

Polycyclic Aromatic Hydrocarbons in Interstellar Chemistry. *S. Lepp & A. Dalgarno.* 324, 553, 7-C10 (1988)

Large Molecules in Diffuse Interstellar Clouds. *S. Lepp, A. Dalgarno, E. F. van Dishoeck, & J. H. Black.* 329, 418, 79-F2 (1988)

Heating of Interstellar Gas by Large Molecules or Small Grains. *S. Lepp & A. Dalgarno.* 335, 769, 181-B3 (1988)

Cosmic-Ray–induced Photodissociation and Photoionization Rates of Interstellar Molecules. *R. Gredel, S. Lepp, A. Dalgarno, & E. Herbst.* 347, 289, 185-F1 (1989)

Molecules in the Ejecta of SN 1987A. *S. Lepp, A. Dalgarno, & R. McCray.* 358, 262, 125-D1 (1990)

LEPP, STEPHEN. The Physical State of the Obscuring Torus in Seyfert Galaxies. *Julian H. Krolik & Stephen Lepp.* 347, 179, 184-C10 (1989)

LERCHE, I. Distribution of Sunspot Umbral Areas: 1917–1982. *T. J. Bogdan, Peter A. Gilman, I. Lerche, & Robert Howard.* 327, 451, 52-A5 (1988)

LERCHE, IAN. Depolarizing Hot Gas in Clusters of Galaxies with a Strong Double Radio Source. *André R. Crusius-Wätzel, Peter L. Biermann, Ian Lerche, & Reinhard Schlickeiser.* 360, 417, 151-E1 (1990)

LERNER, ERIC J. Radio Absorption by the Intergalactic Medium. *Eric J. Lerner.* 361, 63, 157-G1 (1990)

LE ROUX, J. A. A Time-dependent Drift Model for the Long-Term Modulation of Cosmic Rays with Special Reference to Asymmetries with Respect to the Solar Minimum of 1987. *J. A. le Roux & M. S. Potgieter.* 361, 275, 160-C11 (1990)

LESAGE, A. Temperature Dependence of Stark Parameters for Fe I Lines. *A. Lesage, J. L. Lebrun, & J. Richou.* 360, 737, 155-C7 (1990)

LESCH, H. On the Stability of Isotropic Distribution Functions of Relativistic Electrons. I. Parallel Propagating Waves in a Cold Electron-Proton Background Gas. *R. Schlickeiser & H. Lesch.* 329, 149, 76-F1 (1988)

LESSER, M. P. Peculiar Velocities of cD Galaxies: MX Spectroscopy of Abell 1795. *John M. Hill, Paul Hintzen, W. R. Oegerle, W. Romanishin, M. P. Lesser, J. D. Eisenhamer, & D. J. Batuski.* 332, L23, 129-C13 (1988)

LESTER, D. Infrared Reflection Nebulae in Orion Molecular Cloud 2. *Yvonne Pendleton, M. W. Werner, R. Capps, & D. Lester.* 311, 360, 150-A13 (1986)

LESTER, D. F. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Far-Infrared Structure in the Nuclear Region of M51. *D. F. Lester, P. M. Harvey, & M. Joy.* 302, 280, 31-B7 (1986)

The Spatial Structure of IRC +10216 and NGC 7027 in the Far-Infrared. *D. F. Lester, P. M. Harvey, & M. Joy.* 304, 623, 62-G9 (1986)

Far-Infrared Image Restoration Analysis of the Protostellar Cluster in S140. *D. F. Lester, P. M. Harvey, M. Joy, & H. B. Ellis, Jr.* 309, 80, 120-G11 (1986)

Far-Infrared Measurements of N/O in H II Regions: Evidence for Enhanced CN Process Nucleosynthesis in the Inner Galaxy. *D. F. Lester, H. L. Dinerstein, M. W. Werner, D. M. Watson, R. Genzel, & J. W. V. Storey.* 320, 573, 116-A1 (1987)

The 2 Micron Spectrum of L1551 IRS 5. *John S. Carr, P. M. Harvey, & D. F. Lester.* 321, L71, 129-G7 (1987)

Far-Infrared Continuum Emission from the Nucleus, Starburst, and Extended Spiral Arms of NGC 1068. *D. F. Lester, M. Joy, P. M. Harvey, H. B. Ellis, Jr., & P. S. Parmar.* 321, 755, 132-G1 (1987)

Properties of the Gas and Stellar Content of the Superluminous Galaxy NGC 6240. *D. F. Lester, P. M. Harvey, & J. Carr.* 329, 641, 83-F6 (1988)

Unidentified Emission Lines in Jupiter's Northern and Southern 2 Micron Aurorae. *L. Trafton, D. F. Lester, & K. L. Thompson.* 343, L73, 132-E1 (1989)

High Spatial Resolution Far-Infrared Scans of W3(OH). *M. F. Campbell, D. F. Lester, P. M. Harvey, & M. Joy.* 345, 298, 152-G3 (1989)

A Near-Infrared Spectroscopic Study of the Starburst Core of M82. *D. F. Lester, J. S. Carr, M. Joy, & N. Gaffney.* 352, 544, 57-G3 (1990)

High Spatial Resolution Mapping of the Cepheus A Region at 20, 50, and 100 Microns. *H. B. Ellis, Jr., D. F. Lester, P. M. Harvey, M. Joy, C. M. Telesco, R. Decher, & M. W. Werner.* 365, 287, 210-A6 (1990)

LESTER, DAN F. Far-Infrared Emission from the AG Carinae Ring. *Peter J. McGregor, Keith Finlayson, A. R. Hyland, Marshall Joy, Paul M. Harvey, & Dan F. Lester.* 329, 874, 86-E12 (1988)

LESTER, DANIEL F. High Angular Resolution Infrared Mapping of the Compact H II Regions W51 and DR 21/W75. *Paul M. Harvey, Marshall Joy, Daniel F. Lester, & Bruce A. Wilking.* 300, 737, 11-C1 (1986)

Infrared Studies of the Herbig-Haro Object 1–2 Region. *Paul M. Harvey, Marshall Joy, Daniel F. Lester, & Bruce A. Wilking.* 301, 346, 17-F2 (1986)

The Far-Infrared and Optical Structure of Arp 220. *Marshall Joy, Daniel F. Lester, Paul M. Harvey, & Marian Frueh.* 307, 110, 96-B14 (1986)

Observations of Infrared Emission from a Fast-moving Knot in Cassiopeia A. *Harriet L. Dinerstein, Daniel F. Lester, David M. Rank, Michael W. Werner, & Diane H. Wooden.* 312, 314, 4-C11 (1987)

Far-Infrared Detection of a Circumstellar Dust Torus around Sharpless 106. *Paul M. Harvey, Daniel F. Lester, & Marshall Joy.* 316, L75, 62-C5 (1987)

Infrared Emission from Young Stars in the Nucleus of M82. *Marshall Joy, Daniel F. Lester, & Paul M. Harvey.* 319, 314, 96-D5 (1987)

The Origin of the Infrared Luminosity in Centaurus A. *Marshall Joy, Daniel F. Lester, Paul M. Harvey, & H. Benton Ellis.* 326, 662, 40-G11 (1988)

Detection of Fluorescent Molecular Hydrogen Emission in the Planetary Nebula Hubble 12. *Harriet L. Dinerstein, Daniel F. Lester, John S. Carr, & Paul M. Harvey.* 327, L27, 53-C5 (1988)

Far-Infrared Observations of a Luminous Dust-shrouded Source in the Nucleus of NGC 4945. *David Brock, Marshall Joy, Daniel F. Lester, Paul M. Harvey, & H. Benton Ellis, Jr.* 329, 208, 77-C9 (1988)

Near-Infrared Line and Continuum Emission from the Blue Dwarf Galaxy II Zw 40. *Marshall Joy & Daniel F. Lester.* 331, 145, 107-F1 (1988)

The Far-Infrared Structure of the Luminous Interacting Galaxy Arp 299 (NGC 3690). *Marshall Joy, Daniel F. Lester, Paul M. Harvey, C. M. Telesco, Rudolf Decher, Lee J Rickard, & Howard Bushouse.* 339, 100, 51-C8 (1989)

Strong Molecular Hydrogen Emission from the Low-Luminosity Nucleus of M51. *Daniel F. Lester & Keith L. Thompson.* 348, L49, 13-B1 (1990)

LESTER, JOHN B. Theoretical *uvbyβ* Indices. *John B. Lester, Richard O. Gray, & Robert L. Kurucz.* 61, 509, 24-D6 (1986)

Atmospheric Abundances of Classical Metallic-Line A Stars: The Visual Spectral Region. *M. C. Lane & John B. Lester.* 65, 137, 29-D1 (1987)

Infrared Spectroscopy of Cepheids: Peculiar Velocity Structure and Its Effect on Radii and Distances. *Dimitar D. Sasselov, John B. Lester, & Michael S. Fieldus.* 337, L29, 25-C7 (1989)

Accurate Relative Temperatures and Reddenings for Cool Stars from C I Lines at 1 Micron. *Dimitar D. Sasselov & John B. Lester.* 360, 227, 147-G3 (1990)

Infrared Spectroscopy of Cepheids. II. Line Profiles from Different Atmospheric Layers. *Dimitar D. Sasselov & John B. Lester.* 362, 333, 173-C7 (1990)

LESTRADE, JEAN-FRANÇOIS. Dual Frequency and Dual Polarization VLBI Observations of the Stellar System Algol. *Jean-François Lestrade, Robert L. Mutel, Robert A. Preston, & Robert B. Phillips.* 328, 232, 64-E1 (1988)

Interstellar Scattering of the Compact Radio Source 2005+403. *R. L. Mutel & Jean-François Lestrade.* 349, L47, 24-C1 (1990)

LESURF, J. C. G. Submillimeter Wavelength Molecular Spectroscopy of the Orion Molecular Cloud. *Glenn J. White, L. W. Avery, K. J. Richardson, & J. C. G. Lesurf.* 302, 701, 38-C9 (1986)

LETAW, J. R. Nuclear Line Spectroscopy of the 1981 April 27 Solar Flare. *R. J. Murphy, G. H. Share, J. R. Letaw, & D. J. Forrest.* 358, 298, 125-G1 (1990)

LETAW, JOHN R. Distributed Reacceleration of Cosmic Rays. *Amri Wandel, David Eichler, John R. Letaw, Rein Silberberg, & C. H. Tsao.* 316, 676, 59-D13 (1987)

Can Distributed Acceleration Explain the Cosmic-Ray ^{15}N Abundance? *John R. Letaw.* 317, L69, 78-C3 (1987)

LEUNG, CHUN MING. Effects of Large Rate Coefficients for Ion-Polar Neutral Reactions on Chemical Models of Dense Interstellar Clouds. *Eric Herbst & Chun Ming Leung.* 310, 378, 136-B5 (1986)

Using Far-Infrared Limb Brightening to Probe Isolated Dark Globules. *Chun Ming Leung, Estela V. O'Brien, & Russell Dubisch.* 337, 293, 21-A9 (1989)

Gas Phase Production of Complex Hydrocarbons, Cyanopolyynes, and Related Compounds in Dense Interstellar Clouds. *Eric Herbst & Chun Ming Leung.* 69, 271, 4-G5 (1989)

Testing Star Formation Theories: VLA Observations of H_2CO in the Bok Globule B335. *Shudong Zhou, Neal J. Evans II, Harold M. Butner, Marc L. Kutner, Chun Ming Leung, & Lee G. Mundy.* 363, 168, 184-C1 (1990)

LEUNG, KAM-CHING. Analysis of the Evolved Contact System V367 Cygni. *Yan-Feng Li & Kam-Ching Leung.* 313, 801, 25-E3 (1987)

An Explanation of Light-Curve Asymmetries in Contact Binaries by Means of the Coriolis Effect. *Dao-Qi Zhou & Kam-Ching Leung.* 355, 271, 90-C1 (1990)

LEVAN, P. D. *IRAS* Large-Beam and Ground-Based Small-Beam Measurements of the Unidentified 11.3 and [Ne II] 12.8 Micron Line Fluxes in the Starburst Galaxy M82. *P. D. LeVan & S. D. Price.* 312, 592, 9-D1 (1987)

LEVATO, HUGO. Stellar Multiplicity in the Scorpius-Centaurus Association Tabulated Optical Properties of Graphite and Silicate Grains: Erratum. *Hugo Levato, Stella Malaroda, Nidia Morrell, Gladys Solivella, & B. T. Draine.* 64, 487, 23-B8 (1987)

Spectroscopic Binary Frequency among CNO Stars. *Hugo Levato, Nidia Morrell, Beatriz García, & Stella Malaroda.* 68, 319, 27-G1 (1988)

Spectroscopic Binaries in the Open Cluster Collinder 228. *Hugo Levato, Stella Malaroda, Beatriz García, Nidia Morrell, & Gladys Solivella.* 72, 323, 6-E1 (1990)

LEVEDAHL, W. K. Evidence for Nonlinear Wave-Wave Interactions in Solar Type III Radio Bursts. *R. P. Lin, W. K. Levedahl, W. Lotko, D. A. Gurnett, & F. L. Scarf.* 308, 954, 119-D7 (1986)

LEVENTHAL, M. Current Status of the Galactic Center Positron-Annihilation Source. *M. Leventhal, C. J. MacCallum, A. F. Huters, & P. D. Stang.* 302, 459, 33-C3 (1986)

A New Constraint on the Galactic Plane ^{26}Al Distribution. *C. J. MacCullum, A. F. Huters, P. D. Stang, & M. Leventhal.* 317, 877, 75-F1 (1987)

Galactic Center Positronium Fraction: Observations and Simulations. *B. L. Brown & M. Leventhal.* 319, 637, 102-A1 (1987)

Observations of Gamma-Ray Line Profiles from SN 1987A. *J. Tueller, S. Barthelmy, N. Gehrels, B. J. Teegarden, M. Leventhal, & C. J. MacCallum.* 351, L41, 49-D1 (1990)

LEVENTHAL, MARVIN. Prospects for Observations of Nucleosynthetic Gamma-Ray Lines and Continuum from SN 1987A. *Neil Gehrels, Crawford J. MacCallum, & Marvin Leventhal.* 320, L19, 114-B10 (1987)

Prospects for Gamma-Ray Line Observations of Individual Supernovae. *Neil Gehrels, Marvin Leventhal, & Crawford J. MacCallum.* 322, 215, 140-C3 (1987)

High-Velocity Ultraviolet Iron, Silicon, Oxygen, and Sulfur Absorption Features Associated with the Remnant of SN 1006. *Robert A. Fesen, Chi-Chao Wu, Marvin Leventhal, & Andrew J. S. Hamilton.* 327, 164, 48-G1 (1988)

Is GX 1+4 the Compact 511 keV Galactic Center Source? *Jeffrey E. McClintock & Marvin Leventhal.* 346, 143, 167-G6 (1989)

LEVIN, JANNA. Spectral Distortions of the Cosmic Microwave Background. *Fred C. Adams, Katherine Freese, Janna Levin, & Jonathan C. McDowell.* 344, 24, 133-C9 (1989)

LEVIN, S. The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 325, 1, 19-A7 (1988)

The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz: Erratum. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 1, 19-A7 (1988))

A Measurement of the Temperature of the Cosmic Microwave Background at a Frequency of 7.5 GHz. *A. Kogut, M. Bensadoun, G. De Amici, S. Levin, G. F. Smoot, & C. Witebsky.* 355, 102, 88-C6 (1990)

LEVIN, S. M. A Measurement of the Cosmic Microwave Background Radiation Temperature at 1.410 GHz. *S. M. Levin, C. Witebsky, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, & G. F. Smoot.* 334, 14, 154-B9 (1988)

LEVIN, STEVE. Long-Wavelength Measurements of the Cosmic Microwave Background Radiation Spectrum. *George F. Smoot, Marc Bensadoun, Marco Bersanelli, Giovanni De Amici, Alan Kogut, Steve Levin, & Chris Witebsky.* 317, L45, 78-A9 (1987)

The Temperature of the Cosmic Background Radiation: Results from the 1987 and 1988 Measurements at 3.8 GHz. *Giovanni De Amici, Marc Bensadoun, Marco Bersanelli, Al Kogut, Steve Levin, George F. Smoot, & Chris Witebsky.* 359, 219, 136-G1 (1990)

LEVIN, STEVEN M. Measurement of the Intensity of the Cosmic Background Radiation at 3.7 GHz. *Giovanni De Amici, George F. Smoot, Jon Aymon, Marco Bersanelli, Al Kogut, Steven M. Levin, & Chris Witebsky.* 329, 556, 82-F8 (1988)

An Analysis of Recent Measurements of the Temperature of the Cosmic Microwave Background Radiation. *George Smoot, Steven M. Levin, Chris Witebsky, Giovanni De Amici, & Yoel Rephaeli.* 331, 653, 116-A6 (1988)

Measurements of the Cosmic Microwave Background Radiation Temperature at 90 GHz. *Marco Bersanelli, Chris Witebsky, Marc Bensadoun, Giovanni De Amici, Al Kogut, Steven M. Levin, & George F. Smoot.* 339, 632, 59-F7 (1989)

LEVINE, A. 4U 1626–67: The Binary with the Smallest Known Mass Function. *A. Levine, C. P. Ma, J. McClintock, S. Rappaport, M. van der Klis, & F. Verbunt.* 327, 732, 56-E14 (1988)

LEVINSON, AMIR. On Black Widow Evolutionary Scenarios for Binary Neutron Stars. *David Eichler & Amir Levinson.* 335, L67, 185-D1 (1988)

LEVISON, HAROLD F. Dynamical Models of a Sample of Population II Stars. *Harold F. Levison & Douglas O. Richstone.* 308, 627, 115-G3 (1986)

Triaxial Scale-free Models of Highly Flattened Elliptical Galaxies with and without Massive Halos. *Harold F. Levison & Douglas O. Richstone.* 314, 476, 34-F9 (1987)

Observable Properties of E0 Triaxial Galaxies: A Test for Triaxiality. *Harold F. Levison.* 320, L93, 121-B11 (1987)

A Highly Triaxial *N*-Body System Tumbling about Its Intermediate Axis. *Martin J. Duncan & Harold F. Levison.* 339, L17, 58-B9 (1989)

Dynamical Instabilities in Axisymmetric Stellar Systems. I. Oblate E6 Models. *Harold F. Levison, Martin J. Duncan, & Bruce F. Smith.* 363, 66, 183-A6 (1990)

LEVREAULT, R. M. The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault.* 317, 355, 67-F14 (1987)

LEVREAULT, RUSSELL M. Far-Infrared Photometry of Low-Mass Pre–Main-Sequence Stars with Broad CO Wings. *Neal J. Evans II, Russell M. Levreault, & Paul M. Harvey.* 301, 894, 25-D7 (1986)

Observations of Infrared Emission Lines and Radio Continuum Emission from Pre–Main-Sequence Objects. *Neal J. Evans II, Russell M. Levreault, S. Beckwith, & Mike Skrutskie.* 320, 364, 112-A9 (1987)

A Search for Molecular Outflows toward Pre–Main-Sequence Objects. *Russell M. Levreault.* 67, 283, 16-F1 (1988)

Molecular Outflows and Mass Loss in Pre–Main-Sequence Stars. *Russell M. Levreault.* 330, 897, 102-D1 (1988)

LEVY, E. H. Generation of Dynamo Magnetic Fields in Protoplanetary and Other Astrophysical Accretion Disks. *T. F. Stepinski & E. H. Levy.* 331, 416, 110-G6 (1988)

Dynamo Magnetic Field–induced Angular Momentum Transport in Protostellar Nebulae: The "Minimum Mass" Protosolar Nebula. *T. F. Stepinski & E. H. Levy.* 350, 819, 36-B6 (1990)

Generation of Dynamo Magnetic Fields in Thin Keplerian Disks. *T. F. Stepinski & E. H. Levy.* 362, 318, 173-B5 (1990)

LEVY, G. S. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

LEVY, SAUL G. The Frequency and Formation Mechanism of B2–B5 Main-Sequence Binaries. *Helmut A. Abt, Ana E. Gomez, & Saul G. Levy.* 74, 551, 38-A1 (1990)

LEWIN, J. D. Feasibility of Cosmic Neutrino Detectors Based on Coherent Interaction with Superconductors. *P. F. Smith & J. D. Lewin.* 318, 738, 89-A10 (1987)

LEWIN, W. H. G. Bimodal Quasi-oscillatory and Spectral Behavior in Scorpius X-1. *W. Priedhorsky, G. Hasinger, W. H. G. Lewin, J. Middleditch, A. Parmar, L. Stella, & N. White.* 306, L91, 94-A10 (1986)

Correlation between Spectral State and Quasi-periodic Oscillation Parameters in GX 5-1. *M. van der Klis, F. Jansen, J. van Paradijs, W. H. G. Lewin, M. Sztajno, & J. Trümper.* 313, L19, 21-B7 (1987)

The Complex Cross-Spectra of Cygnus X-2 and GX 5-1. *M. van der Klis, G. Hasinger, L. Stella, A. Langmeier, J. van Paradijs, & W. H. G. Lewin.* 319, L13, 100-B2 (1987)

EXOSAT Observations of 4U/MXB 1636–53: On the Relation between the Amount of Accreted Fuel and the Strength of an X-Ray Burst. *W. H. G. Lewin, W. Penninx, J. van Paradijs, E. Damen, M. Sztajno, J. Trümper, & M. van der Klis.* 319, 893, 104-F9 (1987)

Multipeaked X-Ray Bursts from 4U/MXB 1636–53: Evidence against Burst-induced Accretion Disk Coronae. *W. Penninx, J. van Paradijs, & W. H. G. Lewin.* 321, L67, 129-G4 (1987)

Quasi-periodic Oscillations in the X-Ray Flux of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, J. van Paradijs, & N. E. White.* 324, 379, 5-C9 (1988)

Time Lags in the Quasi-periodic Oscillations of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, M. van der Klis, & J. van Paradijs.* 327, L13, 53-B1 (1988)

X-Ray Bursts from 4U 1705–44: Another Case of Burst Properties Dependent on the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. Langmeier, G. Hasinger, W. H. G. Lewin, & J. van Paradijs.* 339, 1044, 64-E8 (1989)

Ginga Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

Correlation of X-Ray Burst Properties with Source State in the "Atoll" Source 4U/MXB 1636–53. *M. van der Klis, G. Hasinger, E. Damen, W. Penninx, J. van Paradijs, & W. H. G. Lewin.* 360, L19, 149-D1 (1990)

Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin,*

P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs. 365, 681, 216-F7 (1990)

LEWIN, WALTER H. G. On the Theory of Type I X-Ray Bursts. The Energetics of Bursts and the Nuclear Fuel Reservoir in the Envelope. *Masayuki Y. Fujimoto, Mirek Sztajno, Walter H. G. Lewin, & Jan van Paradijs.* 319, 902, 104-G5 (1987)

LEWIS, B. M. New OH Observations of the Supergiant IRC +10420. *B. M. Lewis, Yervant Terzian, & J. Eder.* 302, L23, 35-B10 (1986)

H I Survey of Face-on Galaxies: The Frequency of Distortions in H I Disks. *B. M. Lewis.* 63, 515, 9-A5 (1987)

IRAS Galaxies at Low Galactic and High Supergalactic Latitudes. *M. W. Dow, N. Y. Lu, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 324, L51, 18-B9 (1988)

New OH/IR Stars from Color-selected IRAS Sources: 1612 MHz Observations. *J. Eder, B. M. Lewis, & Yervant Terzian.* 66, 183, 4-B1 (1988)

H I Observations in the Virgo Cluster Area. III. All "Member" Spirals. *G. Lyle Hoffman, B. M. Lewis, George Helou, E. E. Salpeter, & Hayes L. Williams.* 69, 65, 1-G1 (1989)

The Chronological Sequence of Circumstellar Masers: Identifying Proto–Planetary Nebulae. *B. M. Lewis.* 338, 234, 35-G1 (1989)

Identifying Galaxies in the Zone of Avoidance. *N. Y. Lu, M. W. Dow, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 357, 388, 117-D7 (1990)

New OH/IR Stars from Color-selected IRAS Sources. II. An Unbiased 1612 MHz Survey. *B. M. Lewis, J. Eder, & Yervant Terzian.* 362, 634, 178-F1 (1990)

LEWIS, B. MURRAY. Blue Compact Dwarf Galaxies in the Virgo Cluster: H I and *IRAS* Data and Upper Limits on Proto–Dwarf Galaxies. *G. Lyle Hoffman, George Helou, E. E. Salpeter, & B. Murray Lewis.* 339, 812, 61-G4 (1989)

LEWIS, D. Theoretical Non-Maxwellian Particle Velocity Distribution Functions for Spherically Symmetric Solar Wind–like Description for Each Species. *S. Cuperman, H. Yatom, M. Dryer, & D. Lewis.* 314, 404, 32-E11 (1987)

LEWIS, D. A. TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

LEWIS, R. Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)

LEWIS, R. A. Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)

Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

LEWIS, ROY S. Electron Energy Loss Spectrometry of Interstellar Diamonds. *Thomas J. Bernatowicz, Patrick C. Gibbons, & Roy S. Lewis.* 359, 246, 137-B5 (1990)

LEWIS, W. The Core Mass–Radius Relation for Giants: A New Test of Stellar Evolution Theory. *P. C. Joss, S. Rappaport, & W. Lewis.* 319, 180, 95-A5 (1987)

LEWIS, WAYNE. *Ginga* Observations of the 50 Millisecond Pulsar PSR 0540–69. *Fumiaki Nagase, John Deeter, Wayne Lewis, Tadayasu Dotani, Fumiyoshi Makino, & Kazuhisa Mitsuda.* 351, L13, 43-C1 (1990)

L'HEUREUX, JACQUES. Energy Spectra of Cosmic-Ray Nuclei from 50 to 2000 GeV per AMU. *John M. Grunsfeld, Jacques L'Heureux, Peter Meyer, Dietrich Müller, & Simon P. Swordy.* 327, L31, 53-C9 (1988)

Relative Abundances of Secondary and Primary Cosmic Rays at High Energies. *Simon P. Swordy, Dietrich Müller, Peter Meyer, Jacques L'Heureux, & John M. Grunsfeld.* 349, 625, 23-A9 (1990)

LI, FAN. On the Observabilities of the Chimney Model of the Interstellar Medium. *Fan Li & Satoru Ikeuchi.* 73, 401, 23-F5 (1990)

LI, HE-SHENG. The Formation of Current Sheets in the Solar Atmosphere. *Ellen G. Zweibel & He-Sheng Li.* 312, 423, 5-D9 (1987)

The Scattering of Alfvén Waves by Density Fluctuations. *He-Sheng Li & Ellen G. Zweibel.* 322, 248, 140-E8 (1987)

LI, PENG. Numerical Simulations of Impulsively Heated Solar Flares. *John T. Mariska, A. Gordon Emslie, & Peng Li.* 341, 1067, 98-D2 (1989)

Soft X-Ray Diagnostics of Electron-heated Solar Flare Atmospheres. *Peng Li, A. Gordon Emslie, & John T. Mariska.* 341, 1075, 98-D10 (1989)

LI, TI-PEI. Gamma-Ray Emission in MeV–GeV Region from Cygnus X-3. *Ti-pei Li & Mei Wu.* 346, 391, 171-A1 (1989)

LI, YAN-FENG. Analysis of the Evolved Contact System V367 Cygni. *Yan-Feng Li & Kam-Ching Leung.* 313, 801, 25-E3 (1987)

LI, ZONG-WEI. Models for Type Ia Supernovae with Composition Inversions. *J. Craig Wheeler, Douglas Swartz, Zong-wei Li, & Peter G. Sutherland.* 316, 733, 60-B5 (1987)

Radio Observation of the Supernova Remnant HB 9 at 232 MHz. *Zhiqiang Shen, Xinji Wu, Xizhen Zhang, Yijia Zheng, Zong-wei Li, & D. A. Leahy.* 356, 241, 102-B1 (1990)

LIANG, E. P. New Synchrotron Luminosity Distance Limit for the 1979 March 5 Gamma-Ray Event. *E. P. Liang.* 308, L17, 113-F11 (1986)

Inverse Comptonization by One-dimensional Relativistic Electrons. *E. Canfield, W. M. Howard, & E. P. Liang.* 323, 565, 161-A1 (1987)

LIANG, EDISON P. Gamma-Ray Burst Annihilation Lines and Neutron Star Structure. *Edison P. Liang.* 304, 682, 63-D12 (1986)

Interpretation of the Gamma-Ray Bump from Cygnus X-1. *Edison P. Liang & Charles D. Dermer.* 325, L39, 31-D1 (1988)

The Early Interaction of a Supernova with the Ambient Medium. I. Adiabatic Expansion. *David L. Band & Edison P. Liang.* 334, 266, 157-C5 (1988)

Two-dimensional Self-similar Accretion Flows. I. Generalized α-Viscosity Models. *Edison P. Liang.* 334, 339, 158-C1 (1988)

Electron Thermalization and Heating in Relativistic Plasmas. *Charles D. Dermer & Edison P. Liang.* 339, 512, 56-C2 (1989)

The Interaction of Supernovae with Circumstellar Bubbles. *Roger A. Chevalier & Edison P. Liang.* 344, 332, 137-B7 (1989)

LIBBRECHT, K. G. The Variable Oblateness of the Sun: Measurements of 1984. *R. H. Dicke, J. R. Kuhn, & K. G. Libbrecht.* 311, 1025, 159-B1 (1986)

Is the Solar Oblateness Variable? Measurements of 1985. *R. H. Dicke, J. R. Kuhn, & K. G. Libbrecht.* 318, 451, 83-G9 (1987)

Observations of a Solar Latitude-dependent Limb Brightness Variation: Erratum. *J. R. Kuhn, K. G. Libbrecht, & R. H. Dicke.* 319, 1010, 106-A8 (1987) (Orig. paper in 290, 758, 32-C8 (1985))

Frequencies of Solar p-Mode Oscillations. *T. L. Duvall, Jr., J. W. Harvey, K. G. Libbrecht, B. D. Popp, & M. A. Pomerantz.* 324, 1158, 16-C1 (1988)

Frequencies of High-Degree Solar Oscillations. *K. G. Libbrecht & J. M. Kaufman.* 324, 1172, 16-D3 (1988)

Radial Velocity Observations Reveal Multimode Oscillations in Gamma Equulei. *K. G. Libbrecht.* 330, L51, 96-G4 (1988)

Solar p-Mode Phenomenology. *K. G. Libbrecht.* 334, 510, 160-E1 (1988)

Solar p-Mode Frequency Splittings. *K. G. Libbrecht.* 336, 1092, 16-A8 (1989)

The Radial Gradient in the Sun's Rotation. *W. A. Dziembowski, Philip R. Goode, & K. G. Libbrecht.* 337, L53, 25-E5 (1989)

Seismology of Solar Oscillation Line Widths. *J. Christensen-Dalsgaard, D. O. Gough, & K. G. Libbrecht.* 341, L103, 100-C9 (1989)

Comparison of Solar p-Mode Oscillations in Surface Brightness and Velocity. *K. G. Libbrecht.* 359, 232, 137-A1 (1990)

Frequencies of Solar Oscillations. *K. G. Libbrecht, M. F. Woodard, & J. M. Kaufman.* 74, 1129, 46-F11 (1990)

LIBBRECHT, KEN G. Properties of Intermediate-Degree Solar Oscillation Modes. *Ken G. Libbrecht & H. Zirin.* 308, 413, 112-E3 (1986)

LICHENSTADT, I. The Effects of Neutrino Transport on the Collapse of Iron Stellar Cores. *E. S. Myra, S. A. Bludman, Y. Hoffman, I. Lichenstadt, N. Sack, & K. A. Van Riper.* 318, 744, 89-B2 (1987)

LIEB, ELLIOTT H. A Rigorous Examination of the Chandrasekhar Theory of Stellar Collapse. *Elliott H. Lieb & Horng-Tzer Yau.* 323, 140, 154-E12 (1987)

LIEBERT, JAMES. On the Nature of the Dwarf Carbon Star G77-61. *D. S. P. Dearborn, James Liebert, Marc Aaronson, Conard C. Dahn, Robert Harrington, Jeremy Mould, & Jesse L. Greenstein.* 300, 314, 4-E1 (1986)

Circular Polarization in the DQ Herculis Binary 3A 0729+103. *William R. Penning, Gary D. Schmidt, & James Liebert.* 301, 881, 24-C8 (1986)

The Palomar-Green Catalog of Ultraviolet-Excess Stellar Objects. *Richard F. Green, Maarten Schmidt, & James Liebert.* 61, 305, 20-G7 (1986)

High-Resolution Hα Observations of M Dwarf Stars: Implications for Stellar Dynamo Models and Stellar Kinematic Properties at Faint Magnitudes. *Mark S. Giampapa & James Liebert.* 305, 784, 77-D12 (1986)

The Chemical Composition of the Cool White Dwarf LP 701-29. *Stelios Kapranidis & James Liebert.* 305, 863, 78-C14 (1986)

The Luminosity Function of DA White Dwarfs. *Thomas A. Fleming, James Liebert, & Richard F. Green.* 308, 176, 110-A7 (1986)

CBS 78: A Second Extremely Rare DBZ Degenerate Star with Accreted Calcium. *Edward M. Sion, Harry L. Shipman, R. Mark Wagner, James Liebert, & Sumner G. Starrfield.* 308, L67, 120-G2 (1986)

The New Magnetic White Dwarf PG 1031+234: Polarization and Field Structure at More than 500 Million Gauss. *Gary D. Schmidt, Steven C. West, James Liebert, Richard F. Green, & H. S. Stockman.* 309, 218, 122-C11 (1986)

H1504+65: An Extraordinarily Hot Compact Star Devoid of Hydrogen and Helium. *J. A. Nousek, Harry L. Shipman, J. B. Holberg, James Liebert, Steven H. Pravdo, N. E. White, & Paolo Giommi.* 309, 230, 122-D9 (1986)

Temperatures for Hot and Pulsating DB White Dwarfs Obtained with the *IUE* Observatory. *James Liebert, F. Wesemael, C. J. Hansen, G. Fontaine, Harry L. Shipman, Edward M. Sion, D. E. Winget, & Richard F. Green.* 309, 241, 122-E7 (1986)

The Exotic Helium Variable PG 1346+082. *M. A. Wood, D. E. Winget, R. E. Nather, Frederic V. Hessman, James Liebert, Donald W. Kurtz, F. Wesemael, & G. Wegner.* 313, 757, 25-B1 (1987)

1E 1048.5+5421: A New 114 Minute AM Herculis Binary. *Simon L. Morris, Gary D. Schmidt, James Liebert, John Stocke, Isabella M. Gioia, & Tommaso Maccacaro.* 314, 641, 36-E8 (1987)

The DBA White Dwarf Stars in the Palomar-Green Sample. *Harry L. Shipman, James Liebert, & Richard F. Green.* 315, 239, 42-E8 (1987)

An Independent Method for Determining the Age of the Universe. *D. E. Winget, C. J. Hansen, James Liebert, H. M. Van Horn, G. Fontaine, R. E. Nather, S. O. Kepler, & D. Q. Lamb.* 315, L77, 49-B1 (1987)

BE Ursae Majoris: A Detached Binary with a Unique Reprocessing Spectrum. *Donald H. Ferguson, James Liebert, Roc Cutri, Richard F. Green, S. P. Willner, João E. Steiner, & Susan Tokarz.* 316, 399, 54-D4 (1987)

Extended Lyman-α Emission in 3C 326.1: A 100 Kiloparsec Cloud of Ionized Gas at a Redshift of 1.82. *Patrick J. McCarthy, Hyron Spinrad, S. Djorgovski, Michael A. Strauss, Wil van Breugel, & James Liebert.* 319, L39, 107-B2 (1987)

CAL 83: A Puzzling X-Ray Source in the Large Magellanic Cloud. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, I. B. Thompson, & James Liebert.* 321, 745, 132-F3 (1987)

Further Observations of the Peculiar Hot Helium-rich Degenerate KPD 0005+5106. *Ronald A. Downes, Edward M. Sion, James Liebert, & J. B. Holberg.* 321, 943, 134-G4 (1987)

A Search for Pulsating Stars Similar to PG 1159–035 and K1-16. *Albert D. Grauer, Howard E. Bond, James Liebert, Thomas A. Fleming, & Richard F. Green.* 323, 271, 156-A10 (1987)

Hot Subluminous Stars and Blue Objects in the Case Low-Dispersion Northern Sky Survey. I. *R. Mark Wagner, Edward M. Sion, James Liebert, & Sumner G. Starrfield.* 328, 213, 64-C8 (1988)

M Dwarfs from the *Einstein* Extended Medium-Sensitivity Survey. *Thomas A. Fleming, James Liebert, Isabella M. Gioia, & Tommaso Maccacaro.* 331, 958, 119-E1 (1988)

The Luminosity Function of White Dwarfs. *James Liebert, Conard C. Dahn, & David G. Monet.* 332, 891, 134-B13 (1988)

The Very Low Mass Triple System: G208–44AB and G208–45. *D. W. McCarthy, Jr., Todd J. Henry, Thomas A. Fleming, Rex A. Saffer, James Liebert, & Julian C. Christou.* 333, 943, 150-F1 (1988)

Discovery of a Close Detached Binary DA White Dwarf System. *Rex A. Saffer, James Liebert, & Edward W. Olszewski.* 334, 947, 167-A1 (1988)

Spectrophotometry of Jacoby's Complete Sample of Planetary Nebulae in the Magellanic Clouds. *Todd A. Boroson & James Liebert.* 339, 844, 62-C1 (1989)

Faint Planetary Nebulae in the Magellanic Clouds: Central Star Properties and Nebular Abundances for the Jacoby Sample. *Richard B. C. Henry, James Liebert, & T. A. Boroson.* 339, 872, 62-E7 (1989)

Determination of the Atmospheric Parameters of the Binary DA White Dwarf L870-2 (EG 11). *P. Bergeron, F. Wesemael, James Liebert, & G. Fontaine.* 345, L91, 165-C5 (1989)

A Compact Planetary Nebula around the Hot White Dwarf EGB 6/PG 0950+139. *James Liebert, Richard Green, Howard E. Bond, J. B. Holberg, F. Wesemael, Thomas A. Fleming, & Kenneth Kidder.* 346, 251, 169-C3 (1989)

Three Very Cool Degenerate Stars in Luyten Common Proper-Motion Binaries: Implications for the Age of the Galactic Disk. *Paul Hintzen, Terry D. Oswalt, James Liebert, & Edward M. Sion.* 346, 454, 171-F8 (1989)

H0538+608: A Long-Period AM Her System Exhibiting Extreme Variations in Accretion Geometry. *Paul A. Mason, James Liebert, & Gary D. Schmidt.* 346, 941, 178-G2 (1989)

The Nebula around EGB 6/PG 0950+139: Evidence for Ablation of a Jovian Planet? *Michael A. Dopita & James Liebert.* 347, 910, 194-G1 (1989)

On the Surface Composition of Cool, Hydrogen-Line White Dwarfs: Discovery of Helium in the Atmospheres of Cool DA Stars and Evidence for Convective Mixing. *P. Bergeron, F. Wesemael, G. Fontaine, & James Liebert.* 351, L21, 43-C11 (1990)

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

Spectrophotometry of White Dwarfs as Observed at High Signal-to-Noise Ratio. II. *Jesse L. Greenstein & James Liebert.* 360, 662, 154-D1 (1990)

Three Unresolved Double Degenerate Binaries. *P. Bergeron, Jesse L. Greenstein, & James Liebert.* 361, 190, 159-C11 (1990)

Abundances in the Hot DZ Star CBS 127: How Efficient Is Hydrogen Screening? *Edward M. Sion, Gordon L. Hammond, R. Mark Wagner, Sumner G. Starrfield, & James Liebert.* 362, 691, 179-C11 (1990)

Extended Lyα Emission Associated with 3C 294. *Patrick J. McCarthy, Hyron Spinrad, Wil van Breugel, James Liebert, Mark Dickinson, S. Djorgovski, & Peter Eisenhardt.* 365, 487, 214-B9 (1990)

MS 1603.6+2600, an Unusual X-Ray Selected Binary System at High Galactic Latitude. *Simon L. Morris, James Liebert, John T. Stocke, Isabella M. Gioia, Rudy E. Schild, & Anna Wolter.* 365, 686, 216-G1 (1990)

LIEBERT, JAMES W. L151-81A/B: A Unique White Dwarf Binary with DB and DA Components. *Terry D. Oswalt, Paul M. Hintzen, James W. Liebert, & Edward M. Sion.* 333, L87, 152-F5 (1988)

LIEBING, D. F. Pulsed TeV Gamma Rays Detected from Hercules X-1 during X-Ray Source Eclipse. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 308, L11, 113-F6 (1986)

Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C.*

Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes. 309, 114, 121-C4 (1986)
Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)
Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)
LIEDAHL, DUANE A. X-Ray Spectral Signatures of Photoionized Plasmas. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 350, L37, 37-B9 (1990)
LIEN, DAVID J. Dust in Comets. I. Thermal Properties of Homogeneous and Heterogeneous Grains. *David J. Lien.* 355, 680, 97-A10 (1990)
LIESKE, J. H. Detection of Neutral Oxygen and Sulfur Emissions near Io Using *IUE*. *G. E. Ballester, H. W. Moos, P. D. Feldman, D. F. Strobel, M. E. Summers, J.-L. Bertaux, T. E. Skinner, M. C. Festou, & J. H. Lieske.* 319, L33, 100-D1 (1987)
LIEU, R. Particle Magnetic Moment Conservation and Resonance in a Pure Magnetohydrodynamic Shock and Field Inclination Influence on Diffusive Shock Acceleration. *R. Lieu & J. J. Quenby.* 350, 692, 34-F4 (1990)
LIEWER, PAULETT C. Linear Tearing Modes of a Forced Current-Sheet Equilibrium. *Paulett C. Liewer & David G. Payne.* 353, 658, 72-A13 (1990)
LIFFMAN, KURT. Stochastic Evolution of Refractory Interstellar Dust during the Chemical Evolution of a Two-Phase Interstellar Medium. *Kurt Liffman & Donald D. Clayton.* 340, 853, 79-B1 (1989)
Age Structure of Refractory Interstellar Dust and Isotopic Consequences. *Donald D. Clayton, Paul Scowen, & Kurt Liffman.* 346, 531, 172-F11 (1989)
The Effect of Catastrophic Collisional Fragmentation and Diffuse Medium Accretion on a Computational Interstellar Dust System. *Kurt Liffman.* 355, 518, 94-G12 (1990)
LIGGETT, M. Coronal Mass Ejections and Associated X-Ray Flare Durations. *S. W. Kahler, N. R. Sheeley, Jr., & M. Liggett.* 344, 1026, 146-F3 (1989)
LIGGETT, MARGARET. Impulsive Microwave Burst and Solar Noise Storm Emission Resolved with the VLA. *Robert F. Willson, Kenneth R. Lang, & Margaret Liggett.* 350, 856, 36-E10 (1990)
LIGHT, LUANN BROWN. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)
LIGHTFOOT, JOHN. Fluorescent Molecular Hydrogen Emission from the Reflection Nebula NGC 2023. *Ian Gatley, Tetsuo Hasegawa, Hiroko Suzuki, Ron Garden, Peter Brand, John Lightfoot, William Glencross, Haruyuki Okuda, & Tetsuya Nagata.* 318, L73, 92-D4 (1987)
LIGHTMAN, ALAN P. Effects of Electron-Positron Pair Opacity for Spherical Accretion onto Black Holes. *Alan P. Lightman, Andrzej A. Zdziarski, & Martin J. Rees.* 315, L113, 49-D8 (1987)
Pair Production and Compton Scattering in Compact Sources and Comparison to Observations of Active Galactic Nuclei. *Alan P. Lightman & Andrzej A. Zdziarski.* 319, 643, 102-A7 (1987)
Compton Reflection of Gamma Rays by Cold Electrons. *Timothy R. White, Alan P. Lightman, & Andrzej A. Zdziarski.* 331, 939, 119-C8 (1988)
Effects of Cold Matter in Active Galactic Nuclei: A Broad Hump in the X-Ray Spectra. *Alan P. Lightman & Timothy R. White.* 335, 57, 170-G1 (1988)
Surfaces of Constant Redshift in an Inflationary Universe. *Alan P. Lightman & William H. Press.* 337, 598, 26-E1 (1989)
Hot Accretion Disks with Electron-Positron Pairs. *Timothy R. White & Alan P. Lightman.* 340, 1024, 81-A9 (1989)
Instabilities and Time Evolution of Hot Accretion Disks with Electron-Positron Pairs. *Timothy R. White & Alan P. Lightman.* 352, 495, 57-C1 (1990)
The Ω Dependence of Peculiar Velocities Induced by Spherical Density Perturbations. *Alan P. Lightman & Paul L. Schechter.* 74, 831, 43-B1 (1990)
LIKKEL, L. Observations of 40–70 Micron Bands of Ice in IRAS 09371+1212 and Other Stars. *A. Omont, S. H. Moseley, T. Forveille, W. J. Glaccum, P. M. Harvey, L. Likkel, R. F. Loewenstein, & C. M. Lisse.* 355, L27, 92-C11 (1990)
LIKKEL, LAUREN. Observations of the Bowen Fluorescent Mechanism in Planetary Nebulae. *Lauren Likkel & L. H. Aller.* 301, 825, 24-F2 (1986)
The Circumstellar Water Fountain of IRAS 16342–3814: A Very High Velocity Bipolar Flow. *Lauren Likkel & Mark Morris.* 329, 914, 87-B4 (1988)
OH and H_2O Observations of Cold *IRAS* Stars. *Lauren Likkel.* 344, 350, 137-C14 (1989)
LILJE, PER B. The Tidal Velocity Field in the Local Supercluster. *Per B. Lilje, Amos Yahil, & Bernard J. T. Jones.* 307, 91, 96-A3 (1986)
Evolution of Clusters in a Hybrid Hot Dark Matter Universe. *Per B. Lilje.* 351, 1, 38-B1 (1990)
LILLER, WILLIAM. *BVI* CCD Photometry of 47 Tucanae. *Gonzalo Alcaino & William Liller.* 319, 304, 96-C9 (1987)
BVI CCD Photometry of the Globular Cluster M4. *Gonzalo Alcaino, William Liller, & Franklin Alvarado.* 330, 569, 98-F11 (1988)
BVRI CCD Photometry of the Globular Cluster NGC 2808. *Gonzalo Alcaino, William Liller, Franklin Alvarado, & Erich Wenderoth.* 72, 693, 12-C9 (1990)
LILLY, S. J. The Reddening of Cygnus A from a Measurement of Paschen-Alpha. *S. J. Lilly & G. J. Hill.* 315, L103, 49-C12 (1987)
A Cosmologically Significant Population of Galaxies Dominated by Very Young Star Formation. *L. L. Cowie, S. J. Lilly, J. Gardner, & I. S. McLean.* 332, L29, 129-D7 (1988)
The Infrared Protogalaxy Candidate in SA 57: A Low-Redshift Elliptical Galaxy. *S. J. Lilly, J. P. Gardner, L. L. Cowie, & I. S. McLean.* 332, L59, 137-C1 (1988)
Discovery of a Radio Galaxy at a Redshift of 3.395. *S. J. Lilly.* 333, 161, 139-G1 (1988)
Faint Identifications of "1 Jansky" Radio Source Empty Fields: Radio Galaxies at High Redshift. *S. J. Lilly.* 340, 77, 68-A1 (1989)
A Luminous Cool Component in the Protogalaxy Candidate 3C 326.1. *S. J. Lilly & I. S. McLean.* 346, L65, 181-C2 (1989)
Galaxy Formation and the Origin of the Ionizing Flux at Large Redshift. *A. Songaila, L. L. Cowie, & S. J. Lilly.* 348, 371, 7-C1 (1990)
A *K* Band Deep Galaxy Survey. *L. L. Cowie, J. P. Gardner, S. J. Lilly, & I. McLean.* 360, L1, 149-B2 (1990)
LILLY, SIMON J. A Field Galaxy at a Probable Redshift of 3.38. *Lennox L. Cowie & Simon J. Lilly.* 336, L41, 16-D10 (1989)
LIM, P. H. The New Formula for Gravitational Radiation Energy Loss: Applications to the Axisymmetric Two-Body Problem and the Binary Pulsar. *F. I. Cooperstock & P. H. Lim.* 304, 671, 63-D1 (1986)
LIMON, M. The Absolute Temperature of the Sky and the Temperature of the Cosmic Background Radiation at 600 MHz. *G. Sironi, M. Limon, G. Marcellino, G. Bonelli, M. Bersanelli, G. Conti, & K. Reif.* 357, 301, 116-C11 (1990)
LIN, C. C. Modal Approach to the Morphology of Spiral Galaxies. I. Basic Structure and Astrophysical Viability. *G. Bertin, C. C. Lin, S. A. Lowe, & R. P. Thurstans.* 338, 78, 34-A3 (1989)
Modal Approach to the Morphology of Spiral Galaxies. II. Dynamical Mechanisms. *G. Bertin, C. C. Lin, S. A. Lowe, & R. P. Thurstans.* 338, 104, 34-C6 (1989)
LIN, D. N. C. Accretion Disks and Periodic Outbursts of Active Galaxies Nuclei. *D. N. C. Lin & G. A. Shields.* 305, 28, 67-C6 (1986)
Compton-heated Winds and Coronae above Accretion Disks. III. Instability and Oscillations. *G. A. Shields, Christopher F. McKee, D. N. C. Lin, & Mitchell C. Begelman.* 306, 90, 82-C3 (1986)

On the Tidal Interaction between Protoplanets and the Primordial Solar Nebula. II. Self-Consistent Nonlinear Interaction. *D. N. C. Lin & John Papaloizou.* 307, 395, 99-D5 (1986)
The Global Evolution of the Primordial Solar Nebula. *Steven P. Ruden & D. N. C. Lin.* 308, 883, 118-E12 (1986)
On the Tidal Interaction between Protoplanets and the Protoplanetary Disk. III. Orbital Migration of Protoplanets. *D. N. C. Lin & John Papaloizou.* 309, 846, 130-E5 (1986)
The Formation of the Exponential Disk in Spiral Galaxies. *D. N. C. Lin & J. E. Pringle.* 320, L87, 121-B6 (1987)
On the Collapse and Violent Relaxation of Protoglobular Clusters. *S. J. Aarseth, D. N. C. Lin, & J. C. B. Papaloizou.* 324, 288, 4-D2 (1988)
Stark-broadened Emission Lines in the Accretion Disks of Cataclysmic Variables. *D. N. C. Lin, R. E. Williams, & R. J. Stover.* 327, 234, 49-E1 (1988)
The Link between Tidal Interaction and Nuclear Activity in Galaxies. *D. N. C. Lin, J. E. Pringle, & M. J. Rees.* 328, 103, 63-B6 (1988)
Polarization of Thermal Radiation from Accretion Disks in Dwarf Novae. *F. H. Cheng, G. A. Shields, D. N. C. Lin, & J. E. Pringle.* 328, 223, 64-D4 (1988)
Axisymmetric Perturbations of Thin Gaseous Disks. I. Unstable Convective Modes and Their Consequences for the Solar Nebula. *Steven P. Ruden, J. C. B. Papaloizou, & D. N. C. Lin.* 329, 739, 85-A1 (1988)
On the Pulsational Overstability in Narrowly Confined Viscous Rings. *J. C. B. Papaloizou & D. N. C. Lin.* 331, 838, 118-B3 (1988)
Spectral Evolution of Accretion Disks of Dwarf Novae. II. Radiative Transfer Models. *F. H. Cheng & D. N. C. Lin.* 337, 432, 22-F1 (1989)
Nonaxisymmetric Instabilities in Thin Self-gravitating Rings and Disks. *J. C. B. Papaloizou & D. N. C. Lin.* 344, 645, 142-D10 (1989)
The Formation and Initial Evolution of Protostellar Disks. *D. N. C. Lin & J. E. Pringle.* 358, 515, 130-A1 (1990)
Wave Propagation in Gaseous Accretion Disks. *D. N. C. Lin, J. C. B. Papaloizou, & G. J. Savonije.* 364, 326, 198-B1 (1990)
Propagation of Tidal Disturbance in Gaseous Accretion Disks. *D. N. C. Lin, J. C. B. Papaloizou, & G. J. Savonije.* 365, 748, 217-E8 (1990)

LIN, DOUGLAS N. C. The Fragmentation of Proto–Globular Clusters. I. Thermal Instabilities. *Stephen D. Murray & Douglas N. C. Lin.* 339, 933, 63-C8 (1989)
The Fragmentation of Proto–Globular Clusters. I. Thermal Instabilities: Erratum. *Stephen D. Murray & Douglas N. C. Lin.* 344, 1052, 147-C2 (1989) (Orig. paper in 339, 933, 63-C8 (1989))
The Fragmentation of Proto–Globular Clusters. II. Gravitational Instabilities. *Stephen D. Murray & Douglas N. C. Lin.* 346, 155, 168-A6 (1989)
On the Origin of Metal Homogeneities in Globular Clusters. *Stephen D. Murray & Douglas N. C. Lin.* 357, 105, 112-D1 (1990)
On the Fragmentation of Protogalactic Clouds. *Stephen D. Murray & Douglas N. C. Lin.* 363, 50, 182-G1 (1990)

LIN, R. P. Evidence for Nonlinear Wave-Wave Interactions in Solar Type III Radio Bursts. *R. P. Lin, W. K. Levedahl, W. Lotko, D. A. Gurnett, & F. L. Scarf.* 308, 954, 119-D7 (1986)
High Spectral Resolution Measurements of a Solar Flare Hard X-Ray Burst. *R. P. Lin & R. A. Schwartz.* 312, 462, 6-A1 (1987)
X-Ray and Radio Properties of Solar ^{3}He-rich Events. *D. V. Reames, B. R. Dennis, R. G. Stone, & R. P. Lin.* 327, 998, 59-F14 (1988)
On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 343, L77, 132-E5 (1989)
On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 349, L33, 19-D4 (1990) (Orig. paper in 343, L77, 132-E5 (1989))
The Identification of H_3S^+ with the Ion of Mass per Charge (m/q) 35 Observed in the Coma of Comet Halley. *M. L. Marconi, D. A. Mendis, A. Korth, R. P. Lin, D. L. Mitchell, & H. Reme.* 352, L17, 55-C1 (1990)

LIN, ZUO. The Intergrated Ultraviolet Radiation Field from QSOs. *Jill Bechtold, Ray J. Weymann, Zuo Lin, & Matthew A. Malkan.* 315, 180, 42-A4 (1987)

LINCOLN, E. W. SN 1987A: Limits to 400 GeV Gamma-Ray Emission. *P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, S. M. Rayner, K. J. Orford, K. E. Turver, & D. G. Williams.* 333, L19, 144-B11 (1988)
300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)
New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)
300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989))

LIND, K. R. The Double-lobed Blazar 3C 371. *J. M. Wrobel & K. R. Lind.* 348, 135, 2-F4 (1990)

LIND, KEVIN R. Numerical Simulations of Magnetized Jets. *Kevin R. Lind, David G. Payne, David L. Meier, & Roger D. Blandford.* 344, 89, 134-B8 (1989)

LINDBLOM, LEE. Estimates of the Maximum Angular Velocity of Rotating Neutron Stars. *Lee Lindblom.* 303, 146, 42-E9 (1986)
The Effect of Viscosity on Neutron Star Oscillations. *Curt Cutler & Lee Lindblom.* 314, 234, 30-F4 (1987)
The Role of the Viscous Secular Instability in Rotating Neutron Stars. *Lee Lindblom.* 317, 325, 67-D9 (1987)
The Radial Oscillations of Neutron Stars: Erratum. *Edward N. Glass & Lee Lindblom.* 71, 173, 36-E7 (1989) (Orig. paper in 53, 93, 17-G13 (1983))
The Dipole Oscillations of General Relativistic Neutron Stars. *Lee Lindblom & Randall J. Splinter.* 345, 925, 162-A11 (1989)
The Accuracy of the Relativistic Cowling Approximation. *Lee Lindblom & Randall J. Splinter.* 348, 198, 3-D8 (1990)
The Oscillations of Rapidly Rotating Newtonian Stellar Models. *James R. Ipser & Lee Lindblom.* 355, 226, 89-F7 (1990)
Damping Times for Neutron Star Oscillations. *Curt Cutler, Lee Lindblom, & Randall J. Splinter.* 363, 603, 191-F1 (1990)

LINDER, ERIC. Spectral Flux from Low-Density Photospheres: Numerical Results. *Stephen Hershkowitz, Eric Linder, & Robert V. Wagoner.* 301, 220, 16-C14 (1986)
Spectral Flux from Low-Density Photospheres: Approximate Results. *Stephen Hershkowitz, Eric Linder, & Robert V. Wagoner.* 303, 800, 51-C7 (1986)

LINDER, ERIC V. Gravitational Lensing Statistics of Amplified Supernovae. *Eric V. Linder, P. Schneider, & Robert V. Wagoner.* 324, 786, 12-A5 (1988)
Microwave Background Anisotropy Induced by Gravitational Waves. *Eric V. Linder.* 326, 517, 39-C1 (1988)
Clustering Correlations and Limits on Cosmological Gravitational Waves. *Eric V. Linder.* 328, 77, 62-G3 (1988)

LINDGREN, BO. The Near-Infrared Spectrum of the FeH Molecule. *John G. Phillips, Sumner P. Davis, Bo Lindgren, & Walter J. Balfour.* 65, 721, 39-F2 (1987)

LINDHOLM, ERIC. The $^{12}C/^{13}C$ Abundance Ratio in Comet Halley. *Susan Wyckoff, Eric Lindholm, Peter A. Wehinger, Bruce A. Peterson, Jean-Marc Zucconi, & Michel C. Festou.* 339, 488, 56-A6 (1989)

LINDSEY, C. Extreme Limb Profiles of the Sun at Far-Infrared and Submillimeter Wavelengths. *C. Lindsey, E. E. Becklin, F. Q. Orrall, M. W. Werner, J. T. Jefferies, & I. Gatley.* 308, 448, 112-G13 (1986)
Solar Chromospheric Modeling Based on Submillimeter Limb Brightness Profile. *L. M. Hermans & C. Lindsey.* 310, 907, 144-A1 (1986)
Submillimeter Diagnostics of the Response of the Solar Chromosphere to Compressional Waves. *C. Lindsey & T. Roellig.* 313, 877, 26-D1 (1987)
LTE Modeling of Inhomogeneous Chromospheric Structure Using High-Resolution Limb Observation. *C. Lindsey.* 320, 893, 119-E6 (1987)

A Solar Chromosphere and Spicule Model Based on Far-Infrared Limb Observations. *D. Braun & C. Lindsey.* 320, 898, 119-E11 (1987)

Statistical Concepts in Radiative Transfer through Inhomogeneous Media. *C. Lindsey & J. T. Jefferies.* 349, 286, 17-D6 (1990)

Far-Infrared Intensity Variations Caused by 5 Minute Oscillations. *C. Lindsey, G. Kopp, E. E. Becklin, T. Roellig, M. W. Werner, J. T. Jefferies, F. Q. Orrall, D. Braun, & D. L. Mickey.* 350, 475, 30-G1 (1990)

LINDSEY, CHARLES A. Radiative Transfer in Inhomogeneous Atmospheres: A Statistical Approach. *John T. Jefferies & Charles A. Lindsey.* 335, 372, 174-F5 (1988)

Submillimeter Observations of the Sun from the James Clerk Maxwell Telescope. *Charles A. Lindsey, Selwyn Yee, Thomas L. Roellig, Richard Hills, David Brock, William Duncan, Graeme Watt, Adrian Webster, & John T. Jefferies.* 353, L53, 73-C6 (1990)

LINE, E. NIGEL. Are the Filaments Real? *Suketu P. Bhavsar & E. Nigel Line.* 331, L63, 121-B6 (1988)

LINFIELD, R. P. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

LINFIELD, ROGER. VLBI Observations of the 3C 111 Jet. *Roger Linfield.* 317, 121, 65-C7 (1987)

LINFORD, G. A. Properties of an Impulsive Compact Solar Flare Determined from *Solar Maximum Mission* X-Ray Measurements. *G. A. Linford & C. J. Wolfson.* 331, 1036, 120-D1 (1988)

LING, J. C. Gamma-Ray Burst Localization by *HEAO 3*. *R. A. Schwartz, J. C. Ling, W. A. Mahoney, & A. S. Jacobson.* 317, 846, 75-C7 (1987)

Long-Term Gamma-Ray Spectral Variability of Cygnus X-1. *J. C. Ling, W. A. Mahoney, Wm. A. Wheaton, & A. S. Jacobson.* 321, L117, 137-B8 (1987)

Gamma-Ray Observations of ^{56}Co in SN 1987A. *W. A. Mahoney, L. S. Varnell, A. S. Jacobson, J. C. Ling, R. G. Radocinski, & Wm. A. Wheaton.* 334, L81, 169-D5 (1988)

Search for a Narrow Annihilation Feature Correlated with the MeV Emission of Cygnus X-1. *J. C. Ling & Wm. A. Wheaton.* 343, L57, 132-C10 (1989)

LING, JAMES C. The Gamma-Ray Spectrum of the Galactic Center Region: Erratum. *Guenter R. Riegler, James C. Ling, William A. Mahoney, Wm. A. Wheaton, & Allan S. Jacobson.* 305, L33, 74-C6 (1986) (Orig. paper in 294, L13, 71-E12 (1985))

LINGENFELTER, R. E. Gamma-Ray Burst Size-Frequency Distributions: Spectral and Temporal Selection Effects. *J. C. Higdon & R. E. Lingenfelter.* 307, 197, 97-C1 (1986)

Positrons from Accelerated Particle Interactions. *B. Kozlovsky, R. E. Lingenfelter, & R. Ramaty.* 316, 801, 60-G6 (1987)

Calculated Gamma-Ray Line Fluxes from the Type II Supernova 1987A. *K. W. Chan & R. E. Lingenfelter.* 318, L51, 92-B12 (1987)

A Determination of the ^{3}He/H Ratio in the Solar Photosphere from Flare Gamma-Ray Line Observations. *X.-M. Hua & R. E. Lingenfelter.* 319, 555, 99-C14 (1987)

Solar Flare Neutron and Accelerated Ion Angular Distributions. *X.-M. Hua & R. E. Lingenfelter.* 323, 779, 163-C8 (1987)

De-Excitation Gamma-Ray Line Emission from Solar Flare Magnetic Loops. *X.-M. Hua, R. Ramaty, & R. E. Lingenfelter.* 341, 516, 90-C2 (1989)

Ion and Relativistic Electron Transport in Solar Flares. *R. Ramaty, J. A. Miller, X.-M. Hua, & R. E. Lingenfelter.* 73, 199, 20-D9 (1990)

LINGENFELTER, RICHARD E. The Nature of the Annihilation Radiation and Gamma-Ray Continuum from the Galactic Center Region. *Richard E. Lingenfelter & Reuven Ramaty.* 343, 686, 127-F2 (1989)

LINGLE, C. P. Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

LINKE, R. A. A Survey of the Millimeter-Wave Spectrum of Sagittarius B2. *Sally E. Cummins, R. A. Linke, & P. Thaddeus.* 60, 819, 12-C3 (1986)

LINNELL, ALBERT P. A Light Synthesis Program for Binary Stars. II. Light Curve and Color Curve Effects in a Contact System. *Albert P. Linnell.* 300, 304, 4-D5 (1986)

A New Method to Optimize Parameters in Solutions of Eclipsing Binary Light Curves. *Josef Kallrath & Albert P. Linnell.* 313, 346, 18-F11 (1987)

The Problem of the W-Type Light Curves of W Ursae Majoris. *Albert P. Linnell.* 316, 389, 54-C8 (1987)

MR Cygni Revisited. *Albert P. Linnell & Josef Kallrath.* 316, 754, 60-C12 (1987)

An Improved Photometric Analysis of SX Aurigae. *Albert P. Linnell, Geraldine J. Peters, & Ronald S. Polidan.* 327, 265, 50-A1 (1988)

A Light Synthesis Program for Binary Stars. III. Differential Corrections. *Albert P. Linnell.* 342, 449, 106-C7 (1989)

CC Comae: An Apparent Secular Filling Factor Change. *Albert P. Linnell & Edward C. Olson.* 343, 909, 130-D10 (1989)

LINSKY, J. L. Ultraviolet, Optical, Infrared, and Microwave Observations of HR 5110. *I. R. Little-Marenin, Theodore Simon, T. R. Ayres, N. L. Cohen, P. A. Feldman, J. L. Linsky, S. J. Little, & R. Lyons.* 303, 780, 51-B1 (1986)

IUE Observations of Interstellar Hydrogen and Deuterium toward Alpha Centauri B. *W. B. Landsman, J. Murthy, R. C. Henry, H. W. Moos, J. L. Linsky, & J. L. Russell.* 303, 791, 51-B12 (1986)

High-Dispersion Observations of Alpha Bootis (K1 III) with the *International Ultraviolet Explorer*. *T. R. Ayres, P. Judge, C. Jordan, A. Brown, & J. L. Linsky.* 311, 947, 158-C1 (1986)

X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, N. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

IUE Observations of Hydrogen and Deuterium in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, W. B. Landsman, J. L. Linsky, A. Vidal-Madjar, & C. Gry.* 315, 675, 48-A10 (1987)

IUE Observations of the Interstellar Medium toward β Geminorum. *J. Murthy, J. B. Wofford, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 336, 949, 14-C6 (1989)

Studies of H I and D I in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 356, 223, 101-G5 (1990)

LINSKY, JEFFREY L. The Magnetic Field of the BY Draconis Flare Star EQ Virginis. *Steven H. Saar, Jeffrey L. Linsky, & Jacques M. Beckers.* 302, 777, 39-B12 (1986)

The Discovery of Nonthermal Radio Emission from Magnetic Bp–Ap Stars. *Stephen A. Drake, David C. Abbott, T. S. Bastian, J. H. Bieging, E. Churchwell, G. Dulk, & Jeffrey L. Linsky.* 322, 902, 149-F10 (1987)

A Survey of the Radio Continuum Emission of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 71, 905, 48-F11 (1989)

New Radio Detections of Early-Type Pre–Main-Sequence Stars. *Stephen L. Skinner, Alexander Brown, & Jeffrey L. Linsky.* 357, L39, 121-C11 (1990)

LINSLEY, JOHN. High-Energy and Ultra–High-Energy Cosmic Rays. *Carl E. Fichtel & John Linsley.* 300, 474, 8-C12 (1986)

LIPANI, N. A. The X-Ray Spectrum of Markarian 509 Observed by *EXOSAT. M. Morini, N. A. Lipani, & D. Molteni.* 317, 145, 65-E3 (1987)

LIPPMANN, S. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2–2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

Laboratory Study of the Spectrum of Highly Ionized Calcium in the 100–250 Å Range Applied to Solar Flare Diagnostics. *S. Lippmann, M. Finkenthal, L. K. Huang, H. W. Moos, B. C. Stratton, T. L. Yu, A. K. Bhatia, & W. L. Hodge.* 316, 819, 61-A11 (1987)

LIS, D. C. Linear Polarization of Millimeter-Wave Emission Lines in Clouds without Large Velocity Gradients. *D. C. Lis, P. F. Goldsmith, R. L. Dickman, C. R. Predmore, A. Omont, & J. Cernicharo.* 328, 304, 65-C7 (1988)

Linear Polarization of HCN Maser Emission in CIT 6. *P. F. Goldsmith, D. C. Lis, A. Omont, S. Guilloteau, & R. Lucas.* 333, 873, 149-G6 (1988)

Search for Circular Polarization of HCN Maser Emission in CIT 6. *D. C. Lis, P. F. Goldsmith, & C. R. Predmore.* 341, 823, 95-D2 (1989)

LIS, DARIUSZ C. 1300 Micron Continuum Observations of the Sagittarius B2 Moleccular Cloud Core. *Paul F. Goldsmith, Ronald L. Snell, & Dariusz C. Lis.* 313, L5, 21-A8 (1987)

CO Isotope Studies of the Sagittarius B2 Molecular Cloud. *Dariusz C. Lis & Paul F. Goldsmith.* 337, 704, 27-F6 (1989)

High Angular Resolution Submillimeter Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, Richard Hills, & Joan Lasenby.* 350, 186, 27-D1 (1990)

Modeling of the Continuum and Molecular Line Emission from the Sagittarius B2 Molecular Cloud. *Dariusz C. Lis & Paul F. Goldsmith.* 356, 195, 101-E1 (1990)

LISEAU, RENÉ. The Geometry of Anisotropic CO Outflows. *René Liseau & Göran Sandell.* 304, 459, 58-G9 (1986)

LISI, FRANCO. Evidence of Pulsation and Circumstellar Shells in Late-Type Giants by Means of Lunar Occultations. *Andrea Richichi, Piero Salinari, & Franco Lisi.* 326, 791, 42-C5 (1988)

LISSAUER, JACK J. Erosion of Circumstellar Particle Disks by Interstellar Dust. *Jack J. Lissauer & Caitlin A. Griffith.* 340, 468, 73-B1 (1989)

LISSE, C. M. Observations of 40–70 Micron Bands of Ice in IRAS 09371+1212 and Other Stars. *A. Omont, S. H. Moseley, T. Forveille, W. J. Glaccum, P. M. Harvey, L. Likkel, R. F. Loewenstein, & C. M. Lisse.* 355, L27, 92-C11 (1990)

LISZT, H. S. The Spatial Extent of the $z = 2.04$ Absorber in the Spectrum of PKS 0458–020. *F. H. Briggs, A. M. Wolfe, H. S. Liszt, M. M. Davis, & K. L. Turner.* 341, 650, 93-C5 (1989)

LISZT, HARVEY S. Small-Scale Structure of Interstellar H I Clouds. *Eric W. Greisen & Harvey S. Liszt.* 303, 702, 50-B12 (1986)

High-Resolution CO Observations of NGC 1068. *Noboru Kaneko, Kazuhiko Morita, Yasuo Fukui, Koji Sugitani, Takahiro Iwata, Naomasa Nakai, Norio Kaifu, & Harvey S. Liszt.* 337, 691, 27-E7 (1989)

New Detection of CO Emission from Four Spiral Galaxies. *David S. Adler & Harvey S. Liszt.* 339, 836, 62-B1 (1989)

LITES, B. W. Stokes Profile Analysis and Vector Magnetic Fields. III. Extended Temperature Minima of Sunspot Umbrae as Inferred from Stokes Profiles of Mg I λ4571. *B. W. Lites, A. Skumanich, D. E. Rees, G. A. Murphy, & M. Carlsson.* 318, 930, 91-B6 (1987)

Stokes Profile Analysis and Vector Magnetic Fields. I. Inversion of Photospheric Lines. *A. Skumanich & B. W. Lites.* 322, 473, 143-B8 (1987)

The Polarization Properties of Model Sunspots: The Broad-Band Polarization Signature of the Schlüter-Temesvary Representation. *A. Skumanich & B. W. Lites.* 322, 483, 143-C4 (1987)

Stokes Profile Analysis and Vector Magnetic Fields. IV. Synthesis and Inversion of the Chromospheric Mg I *b* Lines. *B. W. Lites, A. Skumanich, D. E. Rees, & G. A. Murphy.* 330, 493, 95-G1 (1988)

Stokes Profile Analysis and Vector Magnetic Fields. V. The Magnetic Field Structure of Large Sunspots Observed with Stokes II. *B. W. Lites & A. Skumanich.* 348, 747, 11-F11 (1990)

High-Resolution Spectra of Solar Magnetic Features. I. Analysis of Penumbral Fine Structure. *B. W. Lites, G. B. Scharmer, & A. Skumanich.* 355, 329, 91-A1 (1990)

LITES, BRUCE W. Photoelectric Observations of Chromospheric Sunspot Oscillations. III. Spatial Distribution of Power and Frequency in Umbrae. *Bruce W. Lites.* 301, 992, 26-E9 (1986)

Photoelectric Observations of Chromospheric Sunspot Oscillations. IV. The Ca II H Lines and He I λ10830. *Bruce W. Lites.* 301, 1005, 26-F9 (1986)

Radiative Transfer Diagnostics: Understanding Multilevel Transfer Calculations. I. Analysis of the Full Statistical Equilibrium Equations. *Andrew Skumanich & Bruce W. Lites.* 310, 419, 136-E4 (1986)

The Interaction of Solar *p*-Modes with a Sunspot. I. Observations. *Toufik E. Abdelatif, Bruce W. Lites, & John H. Thomas.* 311, 1015, 159-A2 (1986)

Simultaneous Measurements of Sunspot Umbral Oscillations in the Photosphere, Chromosphere, and Transition Region. *John H. Thomas, Bruce W. Lites, Joseph B. Gurman, & Edwin F. Ladd.* 312, 457, 5-G9 (1987)

Photoelectric Observations of Chromospheric Sunspot Oscillations. V. Penumbral Oscillations. *Bruce W. Lites.* 334, 1054, 168-B7 (1988)

Transfer of Line Radiation in a Magnetic Field. *John Jefferies, Bruce W. Lites, & A. Skumanich.* 343, 920, 130-E8 (1989)

LITTLE, BLANE. Distant Satellites as Probes of Our Galaxy's Mass Distribution. *Blane Little & Scott Tremaine.* 320, 493, 114-G6 (1987)

LITTLE, R. Infrared Imaging of Sunspots and Faculae at the Photospheric Opacity Minimum. *P. Foukal, R. Little, & J. Mooney.* 336, L33, 8-E4 (1989)

Infrared Imaging of Faculae at the Deepest Photospheric Layers. *P. Foukal, R. Little, J. Graves, D. Rabin, & D. Lynch.* 353, 712, 72-F1 (1990)

LITTLE, S. J. Ultraviolet, Optical, Infrared, and Microwave Observations of HR 5110. *I. R. Little-Marenin, Theodore Simon, T. R. Ayres, N. L. Cohen, P. A. Feldman, J. L. Linsky, S. J. Little, & R. Lyons.* 303, 780, 51-B1 (1986)

LITTLE, STEPHEN J. Emission Features in *IRAS* Low-Resolution Spectra of MS, S, and SC Stars. *Irene R. Little-Marenin & Stephen J. Little.* 333, 305, 141-D7 (1988)

The Formation and Annealing of Circumstellar Dust, as Gauged by *IRAS* Low-Resolution Spectra and the Microwave Maser Chronology. *Robert E. Stencel, Joseph A. Nuth III, Irene R. Little-Marenin, & Stephen J. Little.* 350, L45, 37-C6 (1990)

LITTLE-MARENIN, I. R. Ultraviolet, Optical, Infrared, and Microwave Observations of HR 5110. *I. R. Little-Marenin, Theodore Simon, T. R. Ayres, N. L. Cohen, P. A. Feldman, J. L. Linsky, S. J. Little, & R. Lyons.* 303, 780, 51-B1 (1986)

LITTLE-MARENIN, IRENE R. Carbon Stars with Silicate Dust in Their Circumstellar Shells. *Irene R. Little-Marenin.* 307, L15, 100-B3 (1986)

A Water Maser Associated with EU Andromedae: A Carbon Star near an Oxygen-rich Circumstellar Shell. *Priscilla J. Benson & Irene R. Little-Marenin.* 316, L37, 56-C13 (1987)

Masers Associated with Two Carbon Stars: V778 Cygni and EU Andromedae. *Irene R. Little-Marenin, Priscilla J. Benson, & Dale F. Dickinson.* 330, 828, 101-F1 (1988)

Emission Features in *IRAS* Low-Resolution Spectra of MS, S, and SC Stars. *Irene R. Little-Marenin & Stephen J. Little.* 333, 305, 141-D7 (1988)

The Formation and Annealing of Circumstellar Dust, as Gauged by *IRAS* Low-Resolution Spectra and the Microwave Maser

Chronology. *Robert E. Stencel, Joseph A. Nuth III, Irene R. Little-Marenin, & Stephen J. Little.* 350, L45, 37-C6 (1990)
A Catalog of Observations for Stellar Masers. *Priscilla J. Benson, Irene R. Little-Marenin, Tara C. Woods, Joanne M. Attridge, Kristin A. Blais, Dana B. Rudolph, Myra E. Rubiera, & Heidi L. Keefe.* 74, 911, 44-B7 (1990)
LITTLETON, J. E. Transition Rates for the TiO β, δ, ϕ, γ', γ, and α Systems. *Sumner P. Davis, J. E. Littleton, & John G. Phillips.* 309, 449, 124-G5 (1986)
Transition Strength Data for the Orange and Red Bands of CaCl. *J. E. Littleton & Sumner P. Davis.* 333, 1026, 151-F1 (1988)
LIU, FENG. The Universe in a Box: Thermal Effects in the Standard Cold Dark Matter Scenario. *R. Y. Cen, Antony Jameson, Feng Liu, & Jeremiah P. Ostriker.* 362, L41, 181-B1 (1990)
LIU, TIANXING. The Luminosity Scale of RR Lyrae Stars with the Baade-Wesselink Method. I. Photometry and Radial Velocities. *Tianxing Liu & Kenneth A. Janes.* 69, 593, 10-B1 (1989)
The Luminosity Scale of RR Lyrae Stars with the Baade-Wesselink Method. II. The Absolute Magnitudes of 13 Field RR Lyrae Stars. *Tianxing Liu & Kenneth A. Janes.* 354, 273, 77-E1 (1990)
The Luminosity Scale of RR Lyrae Stars with the Baade-Wesselink Method. III. The Absolute Magnitudes of Four RR Lyrae Stars in the Globular Cluster M4. *Tianxing Liu & Kenneth A. Janes.* 360, 561, 153-C1 (1990)
LIVINGSTON, W. Solar Luminosity Variation. V. The Photospheric Lines 1976–1985. *W. Livingston & L. Wallace.* 314, 808, 38-D8 (1987)
The Sun as a Star: On Wavelength Stability. *L. Wallace, Y. R. Huang, & W. Livingston.* 327, 399, 51-D1 (1988)
LIVIO, M. The Influence of Our Galaxy on the Evolution of the Magellanic Clouds. *A. Burkert, M. Livio, & J. W. Truran.* 360, 68, 145-G11 (1990)
LIVIO, MARIO. Considerations Regarding a Space Shuttle Measurement of the Gravitational Constant. *Yosi Avron & Mario Livio.* 304, L61, 66-C13 (1986)
On the Stream-Disk Interaction in Accreting Compact Objects. *Mario Livio, Noam Soker, & Ruth Dgani.* 305, 267, 69-G11 (1986)
On the Frequency of Occurrence of Oxygen-Neon-Magnesium White Dwarfs in Classical Nova Systems. *James W. Truran & Mario Livio.* 308, 721, 116-G5 (1986)
A Model for the Outbursts of the Recurrent Nova RS Ophiuchi. *Mario Livio, James W. Truran, & Ronald F. Webbink.* 308, 736, 117-A9 (1986)
Do Novae Hibernate during Most of the Millennia between Eruptions? Links between Dwarf and Classical Novae, and Implications for the Space Densities and Evolution of Cataclysmic Binaries. *Michael M. Shara, Mario Livio, Anthony F. J. Moffat, & Marina Orio.* 311, 163, 147-G3 (1986)
The Nature of the Recurrent Novae. *Ronald F. Webbink, Mario Livio, James W. Truran, & Marina Orio.* 314, 653, 36-F9 (1987)
Spin-up and Mixing in Accreting White Dwarfs. *Mario Livio & James W. Truran.* 318, 316, 82-C12 (1987)
Massive Disk Formation from the Collision of a Main-Sequence Star with a White Dwarf in a Globular Cluster Core. *Noam Soker, Oded Regev, Mario Livio, & Michael M. Shara.* 318, 760, 89-C4 (1987)
Binary System Parameters and the Hibernation Models of Cataclysmic Variables. *Mario Livio & Michael M. Shara.* 319, 819, 104-A4 (1987)
The Period Distribution and Evolution of Short-Period Cataclysmic Variables. *Brian Warner & Mario Livio.* 322, L95, 152-C14 (1987)
On the Composition Dependence of Thermonuclear Runaway Models for the Recurrent Nova U Scorpii. *James W. Truran, Mario Livio, John Hayes, Sumner Starrfield, & Warren M. Sparks.* 324, 345, 5-A3 (1988)
Nova Outbursts in the Case of "Mild Hibernation." *Mario Livio, Anurag Shankar, & James W. Truran.* 325, 282, 22-C1 (1988)
The Common Envelope Phase in the Evolution of Binary Stars. *Mario Livio & Noam Soker.* 329, 764, 85-C1 (1988)
Nova Outbursts on Magnetic White Dwarfs. *Mario Livio, Anurag Shankar, & James W. Truran.* 330, 264, 93-A10 (1988)
On the Stream-Accretion Disk Interaction: Response to Increased Mass Transfer Rate. *Ruth Dgani, Mario Livio, & Noam Soker.* 336, 350, 5-E5 (1989)
Interacting Winds and the Shaping of Planetary Nebulae. *Noam Soker & Mario Livio.* 339, 268, 53-C8 (1989)
Accretion onto Hot White Dwarfs in Relation to Symbiotic Novae. *Mario Livio, Dina Prialnik, & Oded Regev.* 341, 299, 87-E8 (1989)
Morphologies of Planetary Nebulae Ejected by Close-Binary Nuclei. *Howard E. Bond & Mario Livio.* 355, 568, 95-E1 (1990)
The Common Envelope Phase in the Outbursts of Classical Novae. *Mario Livio, Anurag Shankar, Andreas Burkert, & James W. Truran.* 356, 250, 102-B11 (1990)
The Recurrent Nova U Scorpii Revisited: Can a Certain Class of Models Be Eliminated? *Wolfgang J. Duschl, Mario Livio, & James W. Truran.* 360, 232, 147-G10 (1990)
Local Detonations with Application to Type I Supernovae. *Ruth Dgani & Mario Livio.* 361, 540, 164-G3 (1990)
LIVNE, E. The Dynamical Consequences of a Red Giant–Main-Sequence Collision. *E. Livne & Y. Tuchman.* 332, 271, 126-B7 (1988)
LIVNE, ELI. Successive Detonations in Accreting White Dwarfs as an Alternative Mechanism for Type I Supernovae. *Eli Livne.* 354, L53, 86-C7 (1990)
Geometrical Effects in Off-Center Detonation of Helium Shells. *Eli Livne & Ami S. Glasner.* 361, 244, 160-A3 (1990)
LIZANO, S. VLA Observations of High-Velocity H I Associated with the Herbig-Haro Objects 7–11. *L. F. Rodríguez, S. Lizano, J. Cantó, V. Escalante, & I. F. Mirabel.* 365, 261, 209-F5 (1990)
LIZANO, SUSANA. Mass Loss from Rapidly Rotating Magnetic Protostars. *Frank H. Shu, Susana Lizano, Steven P. Ruden, & Joan Najita.* 328, L19, 66-E7 (1988)
Neutral Stellar Winds That Drive Bipolar Outflows in Low-Mass Protostars. *Susana Lizano, Carl Heiles, Luis F. Rodríguez, Bon-Chul Koo, Frank H. Shu, T. Hasegawa, S. Hayashi, & I. F. Mirabel.* 328, 763, 71-D7 (1988)
Molecular Cloud Cores and Bimodal Star Formation. *Susana Lizano & Frank H. Shu.* 342, 834, 112-F7 (1989)
LLEBARIA, A. High-Resolution Imaging of the Double QSO 2345+007: Evidence for Subcomponents. *J.-L. Nieto, S. Roques, A. Llebaria, Ch. Vanderriest, G. Lelièvre, S. di Serego Alighieri, F. D. Macchetto, & M. A. C. Perryman.* 325, 644, 27-E8 (1988)
LLOYD, LAWRENCE A. A Catalog of *IRAS* Observations of Large Optical Galaxies. *W. Rice, Carol J. Lonsdale, B. T. Soifer, G. Neugebauer, E. L. Koplan, Lawrence A. Lloyd, T. de Jong, & H. J. Habing.* 68, 91, 24-F1 (1988)
LO, K. Y. Evidence for Nonaxisymmetric Nuclear Bulges in Spiral Galaxies. *Dennis Zaritsky & K. Y. Lo.* 303, 66, 41-F6 (1986)
High-Resolution Mapping of Molecular Outflows in NGC 2071, W49, and NGC 7538. *N. Z. Scoville, A. I. Sargent, D. B. Sanders, M. J. Claussen, C. R. Masson, K. Y. Lo, & T. G. Phillips.* 303, 416, 45-F2 (1986)
Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)
Circumnuclear Water Vapor Masers in Active Galaxies. *M. J. Claussen & K. Y. Lo.* 308, 592, 115-D8 (1986)
Millimeter Interferometry of the Molecular Gas in Arp 220. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, S. L. Scott, & K. Y. Lo.* 311, L47, 160-C1 (1986)
Molecular Gas in the Starburst Nucleus of M82. *K. Y. Lo, K. W. Cheung, C. R. Masson, T. G. Phillips, S. L. Scott, & D. P. Woody.* 312, 574, 9-B7 (1987)
Molecular Spiral Structure in M51. *K. Y. Lo, R. Ball, C. R. Masson, T. G. Phillips, S. Scott, & D. P. Woody.* 317, L63, 78-B11 (1987)
CO Maps of the OMC-1 Outflow. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 319, 446, 98-A11 (1987)
CO Maps of the OMC-1 Outflow: Erratum. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 446, 98-A11 (1987))
The Optical Jet of the Galaxy NGC 4258: Interaction with the Interstellar Medium. *Pierre Martin, Jean-René Roy, Louis Noreau, & K. Y. Lo.* 345, 707, 159-E1 (1989)

LOCHNER, JAMES C. A Search for a Dynamical Attractor in Cygnus X-1. *James C. Lochner, J. H. Swank, & A. E. Szymkowiak.* 337, 823, 29-B11 (1989)

LOCKETT, PHILIP. An Escape Probability Treatment of Line Fluorescence and Overlap in Astrophysics. *Philip Lockett & Moshe Elitzur.* 344, 525, 139-E5 (1989)

LOCKMAN, FELIX J. The Extent of the Local H I Halo. *Felix J. Lockman, L. M. Hobbs, & J. Michael Shull.* 301, 380, 18-A8 (1986)

The Structure of Galactic H I in Directions of Low Total Column Density. *Felix J. Lockman, Keith Jahoda, & Dan McCammon.* 302, 432, 33-A4 (1986)

Small-Scale H I Structure and the Soft X-Ray Background. *Keith Jahoda, Dan McCammon, & Felix J. Lockman.* 311, L57, 160-C11 (1986)

The Prevalence of Supernova Remnants among Unidentified Galactic Radio Sources. *David J. Helfand, T. Velusamy, R. H. Becker, & Felix J. Lockman.* 341, 151, 85-G1 (1989)

A Survey of Radio H II Regions in the Northern Sky. *Felix J. Lockman.* 71, 469, 41-G5 (1989)

Galactic H I and the Interstellar Medium in Ursa Major. *Keith Jahoda, Felix J. Lockman, & Dan McCammon.* 354, 184, 76-C1 (1990)

LOCKWOOD, G. W. The Albedo of Titan. *G. W. Lockwood, B. L. Lutz, D. T. Thompson, & E. S. Bus.* 303, 511, 46-F2 (1986)

Spectrophotometry of Epsilon Aurigae. *D. T. Thompson, B. L. Lutz, G. W. Lockwood, & J. R. Sowell.* 321, 450, 127-B1 (1987)

The Activity, Variability, and Rotation of Lower Main-Sequence Hyades Stars. *Richard R. Radick, D. T. Thompson, G. W. Lockwood, D. K. Duncan, & W. E. Baggett.* 321, 459, 127-B10 (1987)

The Activity, Variability, and Rotation of Lower Main-Sequence Members of the Coma Star Cluster. *Richard R. Radick, Brian A. Skiff, & G. W. Lockwood.* 353, 524, 70-D12 (1990)

LOCKWOOD, J. A. Interplanetary Cosmic-Ray Radial and Latitudinal Gradients Derived in 1984 Using *IMP 8*, *Voyager*, and *Pioneer* Data. *W. R. Webber & J. A. Lockwood.* 302, 511, 33-G8 (1986)

Interplanetary Radial Cosmic-Ray Gradients and Their Implication for a Possible Large Modulation Effect at the Heliospheric Boundary. *W. R. Webber & J. A. Lockwood.* 317, 534, 69-F11 (1987)

Proton Energy Spectra at the Sun in the Solar Cosmic-Ray Events on 1978 May 7 and 1984 February 16. *J. A. Lockwood, H. Debrunner, E. O. Flückiger, & H. Grädel.* 355, 287, 90-D8 (1990)

Signature of the Solar Cosmic-Ray Event on 1982 June 3. *H. Debrunner, E. O. Flückiger, & J. A. Lockwood.* 73, 259, 21-C1 (1990)

Cosmic-Ray Gradient Measurements and Modulation beyond the Inner Solar Wind Termination Shock. *J. J. Quenby, J. A. Lockwood, & W. R. Webber.* 365, 365, 211-A1 (1990)

LOEB, A. The Magnitude of ^{3}He Diffusion in the Sun. *A. Loeb, J. N. Bahcall, & M. Milgrom.* 341, 1108, 98-G9 (1989)

A Possible Origin of Galactic Magnetic Fields. *R. A. Daly & A. Loeb.* 364, 451, 201-E12 (1990)

LOEB, ABRAHAM. Could Unstable Relic Particles Distort the Microwave Background Radiation? *Arnon Dar, Abraham Loeb, & Shmuel Nussinov.* 338, L41, 49-A10 (1989)

Magnetic Field Generation during the Cosmological QCD Phase Transition. *Jean M. Quashnock, Abraham Loeb, & David N. Spergel.* 344, L49, 148-B1 (1989)

Constraints on a Hot Intergalactic Medium from the X-Ray and Submillimeter Backgrounds. *Ofer Lahav, Abraham Loeb, & Christopher F. McKee.* 349, L9, 19-B6 (1990)

Element Diffusion in Stellar Interiors. *John N. Bahcall & Abraham Loeb.* 360, 267, 148-C10 (1990)

LOEFFLER, F. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

LOESER, R. A New Sunspot Umbral Model and Its Variation with the Solar Cycle. *P. Maltby, E. H. Avrett, M. Carlsson, O. Kjeldseth-Moe, R. L. Kurucz, & R. Loeser.* 306, 284, 84-D9 (1986)

Energy Balance in the Solar Transition Region. I. Hydrostatic Thermal Models with Ambipolar Diffusion. *J. M. Fontenla, E. H. Avrett, & R. Loeser.* 355, 700, 97-C4 (1990)

LOESER, RUDOLF. Mg I as a Probe of the Solar Chromosphere: The Atomic Model. *Pablo J. Mauas, Eugene H. Avrett, & Rudolf Loeser.* 330, 1008, 103-F1 (1988)

Radiative Transfer in the Broad Emission Line Regions of Quasi-stellar Objects. *Eugene H. Avrett & Rudolf Loeser.* 331, 211, 108-D1 (1988)

Chromospheric Structure of Cool Carbon Stars. *Donald G. Luttermoser, Hollis R. Johnson, Eugene H. Avrett, & Rudolf Loeser.* 345, 543, 155-G3 (1989)

Computed Profiles of the Solar C I Multiplets at 1561 and 1657 Å. *Pablo J. Mauas, Eugene H. Avrett, & Rudolf Loeser.* 345, 1104, 164-C1 (1989)

Winds from T Tauri Stars. I. Spherically Symmetric Models. *Lee Hartmann, Nuria Calvet, Eugene H. Avrett, & Rudolf Loeser.* 349, 168, 16-A8 (1990)

On Carbon Monoxide Cooling in the Solar Atmosphere. *Pablo J. Mauas, Eugene H. Avrett, & Rudolf Loeser.* 357, 279, 114-E3 (1990)

LOEWENSTEIN, MICHAEL. Hot Galactic Flows. *William G. Mathews & Michael Loewenstein.* 306, L7, 86-A9 (1986)

Evolution of Hot Galactic Flows. *Michael Loewenstein & William G. Mathews.* 319, 614, 101-F4 (1987)

Magnetothermal Instability in Cooling Flows. *Michael Loewenstein.* 349, 471, 21-B1 (1990)

LOEWENSTEIN, R. Far-Infrared and Submillimeter Photometric Mapping of Spiral Galaxies in the Virgo Cluster. *A. A. Stark, J. A. Davidson, S. Platt, D. A. Harper, R. Pernic, R. Loewenstein, G. Engargiola, & S. Casey.* 337, 650, 27-B1 (1989)

LOEWENSTEIN, R. F. Dust Reradiation from M43. *J. Smith, D. A. Harper, & R. F. Loewenstein.* 314, 76, 28-G7 (1987)

Far-Infrared Spectrophotometry of SN 1987A: Days 265 and 267. *S. H. Moseley, E. Dwek, W. Glaccum, J. R. Graham, R. F. Loewenstein, & R. F. Silverberg.* 347, 1119, 197-E1 (1989)

Observations of 40–70 Micron Bands of Ice in IRAS 09371+1212 and Other Stars. *A. Omont, S. H. Moseley, T. Forveille, W. J. Glaccum, P. M. Harvey, L. Likkel, R. F. Loewenstein, & C. M. Lisse.* 355, L27, 92-C11 (1990)

LOEWENSTEIN, ROBERT. A Search for *p*-Mode Oscillations of Jupiter: Serendipitous Observations of Nonacoustic Thermal Wave Structure. *Drake Deming, Michael J. Mumma, Fred Espenak, Donald E. Jennings, Theodor Kostiuk, Gunter Wiedemann, Robert Loewenstein, & Joseph Piscitelli.* 343, 456, 123-F7 (1989)

LOH, E. C. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)

Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

LOH, EDWIN D. Photometric Redshifts of Galaxies. *Edwin D. Loh & Earl J. Spillar.* 303, 154, 42-F3 (1986)

A Measurement of the Mass Density of the Universe. *Edwin D. Loh & Earl J. Spillar.* 307, L1, 100-A4 (1986)

The Redshift-Volume Measurement of the Cosmological Parameters. *Edwin D. Loh.* 329, 24, 75-C4 (1988)

LOIACONO, R. Solar Microbursts at Meter-Dekameter Wavelengths. *M. R. Kundu, T. E. Gergely, A. Szabo, R. Loiacono, & S. M. White.* 308, 436, 112-F13 (1986)

LOKEN, C. Anisotropic Radiation Fields Produced by Scattering in Thick Accretion Disks. *J. Madej, C. Loken, & R. N. Henriksen.* 312, 652, 10-A13 (1987)

LOMBARDI, G. G. Absolute Oscillator Strengths for 108 Lines of Si I between 163 and 410 Nanometers. *Peter L. Smith, M. C. E. Huber, G. P. Tozzi, H. E. Griesinger, B. L. Cardon, & G. G. Lombardi.* 322, 573, 144-B12 (1987)

LOMINADZE, J. B. Fast Variation of Cygnus X-1 and Related Sources. *G. D. Chagelishvili, J. B. Lominadze, & A. D. Rogava.* 347, 1100, 197-C1 (1989)

LOMPERSKI, M. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

LONDON, RICHARD A. Model Atmospheres for X-Ray Bursting Neutron Stars. *Richard A. London, Ronald E. Taam, & W. Michael Howard.* 306, 170, 83-B8 (1986)

Time-dependent Calculations of X-Ray and γ Reprocessing. *Lynn R. Cominsky, Richard A. London, & Richard I. Klein.* 315, 162, 41-F14 (1987)

A Refractive Model for Eclipsing Binary Radio Pulsars. *Robert T. Emmering & Richard A. London.* 363, 589, 191-E1 (1990)

LONG, KEVIN. Distribution of Intensities of Gamma-Ray Bursts. *Bohdan Paczyński & Kevin Long.* 333, 694, 147-G1 (1988)

Tidal Disruption of Open Clusters in Their Parent Molecular Cloud. *Kevin Long.* 341, 796, 95-B2 (1989)

LONG, KNOX S. X-Ray Emission from Wolf-Rayet Stars. *Richard L. White & Knox S. Long.* 310, 832, 143-A8 (1986)

X-Ray Imaging Observation of the Supernova Remnant PKS 1209−52 and Its Central Compact X-Ray Source. *Yutaka Matsui, Knox S. Long, & Ian R. Tuohy.* 329, 838, 86-C1 (1988)

An Improved Proper-Motion Measurement of SN 1006. *Knox S. Long, William P. Blair, & Sidney van den Bergh.* 333, 749, 149-D7 (1988)

High-Velocity, Nonradiative Shock Emission in Kepler's Supernova Remnant. *Robert A. Fesen, Robert H. Becker, William P. Blair, & Knox S. Long.* 338, L13, 40-C6 (1989)

Discovery of Optical Emission from the Remnant of SN 1957D in M83. *Knox S. Long, William P. Blair, & Wojciech Krzeminski.* 340, L25, 75-E4 (1989)

An Atlas of Confirmed and Candidate Supernova Remnants in M33. *Knox S. Long, William P. Blair, Robert P. Kirshner, & P. Frank Winkler.* 72, 61, 2-B1 (1990)

The Identification of Balmer-dominated Filaments in RCW 86. *Knox S. Long & William P. Blair.* 358, L13, 127-B6 (1990)

LONGMORE, A. J. Milliarcsecond Resolution Infrared Observations of Young Stars in Taurus and Ophiuchus. *M. Simon, R. R. Howell, A. J. Longmore, B. A. Wilking, D. M. Peterson, & W.-P. Chen.* 320, 344, 111-G3 (1987)

Lunar Occultation of the Galactic Center at 2.2 Microns. *D. J. Adams, E. E. Becklin, R. F. Jameson, A. J. Longmore, Aa. Sandqvist, & E. Valentijn.* 327, L65, 61-C11 (1988)

The Infrared Light Curves and Colors of SN 1984A. *James R. Graham, W. P. S. Meikle, A. J. Longmore, & P. M. Williams.* 333, 743, 148-D1 (1988)

Discovery of Five Pre–Main-Sequence Binaries in Taurus. *W.-P. Chen, M. Simon, A. J. Longmore, R. R. Howell, & J. A. Benson.* 357, 224, 113-G5 (1990)

Subarcsecond Resolution Observations of the Central Parsec of the Galaxy at 2.2 Microns. *M. Simon, W.-P. Chen, W. J. Forrest, J. D. Garnett, A. J. Longmore, T. Gauer, & R. I. Dixon.* 360, 95, 146-C1 (1990)

LONGMORE, ANDREW J. Infrared Spectroscopy of the Supernova Remnant IC 443. *James R. Graham, Gillian S. Wright, & Andrew J. Longmore.* 313, 847, 26-A7 (1987)

Infrared Spectroscopy and Imaging of the Crab Nebula. *James R. Graham, Gillian S. Wright, & Andrew J. Longmore.* 352, 172, 52-B5 (1990)

LONGO, RENATA. Intrinsic Ultraviolet (912–3200 Å) Energy Distribution of OB Stars. *Renata Longo, Roberto Stalio, Ronald S. Polidan, & Lucio Rossi.* 339, 474, 55-G4 (1989)

LONSDALE, C. J. Distorted Structure in the Small High-Redshift Radio Source 4C 29.50. *C. J. Lonsdale & P. D. Barthel.* 303, 617, 49-C5 (1986)

LONSDALE, CAROL J. Comparison of 2.1 and 3.8 Micron Line Profiles of Shocked H_2 in the Orion Molecular Cloud. *T. R. Geballe, S. E. Persson, Theodore Simon, Carol J. Lonsdale, & P. J. McGregor.* 302, 693, 38-C1 (1986)

The Luminosity Function and Space Density of the Most Luminous Galaxies in the *IRAS* Survey. *B. T. Soifer, D. B. Sanders, G. Neugebauer, G. E. Danielson, Carol J. Lonsdale, B. F. Madore, & S. E. Persson.* 303, L41, 53-C5 (1986)

The *IRAS* Bright Galaxy Sample. II. The Sample and Luminosity Function. *B. T. Soifer, D. B. Sanders, B. F. Madore, G. Neugebauer, G. E. Danielson, J. H. Elias, Carol J. Lonsdale, & W. L. Rice.* 320, 238, 110-F7 (1987)

A Catalog of *IRAS* Observations of Large Optical Galaxies. *W. Rice, Carol J. Lonsdale, B. T. Soifer, G. Neugebauer, E. L. Koplan, Lawrence A. Lloyd, T. de Jong, & H. J. Habing.* 68, 91, 24-F1 (1988)

Galaxy Evolution and Large-Scale Structure in the Far-Infrared. I. *IRAS* Pointed Observations. *Carol J. Lonsdale & Perry B. Hacking.* 339, 712, 60-F1 (1989)

IRAS Observations of Optically Selected Galaxies. I. The Properties of the UGC Redshift Example. *Gregory D. Bothun, Carol J. Lonsdale, & Walter Rice.* 341, 129, 85-E5 (1989)

The Wasilewski Sample of Emission-Line Galaxies: Follow-up CCD Imaging and Spectroscopic and *IRAS* Observations. *Gregory D. Bothun, Jules P. Halpern, Carol J. Lonsdale, Chris Impey, & Mark Schmitz.* 70, 271, 22-C7 (1989)

Galaxy Evolution and Large-Scale Structure in the Far-Infrared. II. The *IRAS* Faint Source Survey. *Carol J. Lonsdale, Perry B. Hacking, T. P. Conrow, & M. Rowan-Robinson.* 358, 60, 122-G1 (1990)

LOOMIS, CHARLES G. HR Aurigae: An Active Binary? *Charles G. Loomis & Edward G. Schmidt.* 347, L77, 199-D5 (1989)

The Long-Period Field RR Lyrae Stars. *Edward G. Schmidt, Charles G. Loomis, Andrew T. Groebner, & Chris T. Potter.* 360, 604, 153-F7 (1990)

LOOSE, HANS-HERMANN. Surface Brightness and Color Distributions in Blue Compact Dwarf Galaxies. I. Haro 2, an Extreme Example of a Star-forming Young Elliptical Galaxy. *Hans-Hermann Loose & Trinh X. Thuan.* 309, 59, 120-F1 (1986)

LOPES, DALTON F. The Chemical Composition of the Emitting Gas in HM Sagittae. *J. A. de Freitas Pacheco, S. J. Codina-Landaberry, & Dalton F. Lopes.* 337, 520, 24-A1 (1989)

LOPEZ, CARLOS. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wiśniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

LÓPEZ, ROSARIO. On the Intrinsic Differences among Type Ia Supernovae. *Ramón Canal, Jordi Isern, & Rosario López.* 330, L113, 104-G12 (1988)

Ammonia Observations of Outflow Regions. *Guillem Anglada, Luis F. Rodríguez, José M. Torrelles, Robert Estalella, Paul T. P. Ho, Jorge Cantó, Rosario López, & Lourdes Verdes-Montenegro.* 341, 208, 86-E1 (1989)

Further Studies of the Role of Dense Molecular Clouds around Outflow Sources. *Lourdes Verdes-Montenegro, José M. Torrelles, Luis F. Rodríguez, Guillem Anglada, Rosario López, Robert Estalella, Jorge Cantó, & Paul T. P. Ho.* 346, 193, 168-E1 (1989)

LOPEZ PIÑEIRO, A. Vibration-Rotational Intensities for the $X\ ^1\Sigma^+$ State of AlH and AlD. *R. H. Tipping, A. Lopez Piñeiro, & C. Chackerian, Jr.* 323, 810, 163-E12 (1987)

LORD, J. J. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes,*

W. Wolter, & B. Wosiek (The JACEE Collaboration). 349, L25, 19-C9 (1990)

LORD, STEVEN D. CO Observations of Infrared Bright Galaxies: The Efficiency of Star Formation. *Judith S. Young, F. Peter Schloerb, Jeffrey D. Kenney, & Steven D. Lord.* 304, 443, 58-F4 (1986)

Observations of Fe II (26.0 Microns) in SN 1987A. *Edwin F. Erickson, Michael R. Haas, Sean W. J. Colgan, Steven D. Lord, Michael G. Burton, Jürgen Wolf, David J. Hollenbach, & Michael Werner.* 330, L39, 96-F7 (1988)

Efficient Star Formation in the Spiral Arms of M51. *Steven D. Lord & Judith S. Young.* 356, 135, 100-F7 (1990)

Velocity-resolved Far-Infrared Spectra of [Fe II]: Evidence for Mixing and Clumping in SN 1987A. *Michael R. Haas, Sean W. J. Colgan, Edwin F. Erickson, Steven D. Lord, Michael G. Burton, & David J. Hollenbach.* 360, 257, 148-B12 (1990)

LOREDO, THOMAS J. Analyzing Gamma-Ray Burst Spectral Data. *Thomas J. Loredo & Richard I. Epstein.* 336, 896, 13-F1 (1989)

LOREN, R. B. L1689N: Misalignment between a Bipolar Outflow and a Magnetic Field. *Alwyn Wootten & R. B. Loren.* 317, 220, 66-D1 (1987)

LOREN, ROBERT B. A Massive Prestellar Molecular Core and Adjacent Compression Front in the ρ Ophiuchi Cloud. *Robert B. Loren & Alwyn Wootten.* 306, 142, 82-G8 (1986)

Submillimeter Molecular Spectroscopy with the Texas Millimeter Wave Observatory Radio Telescope. *Robert B. Loren & Alwyn Wootten.* 310, 889, 143-E12 (1986)

The Cobwebs of Ophiuchus. I. Strands of ^{13}CO: The Mass Distribution. *Robert B. Loren.* 338, 902, 45-B1 (1989)

The Cobwebs of Ophiuchus. II. ^{13}CO Filament Kinematics. *Robert B. Loren.* 338, 925, 45-D2 (1989)

Observations of the Formaldehyde Emission in Orion-KL: Abundances, Distribution, and Kinematics of the Dense Gas in the Orion Molecular Ridge. *Jeffrey G. Mangum, Alwyn Wootten, Robert B. Loren, & E. James Wadiak.* 348, 542, 9-D3 (1990)

Cold DCO^+ Cores and Protostars in the Warm ρ Ophiuchi Cloud. *Robert B. Loren, Alwyn Wootten, & Bruce A. Wilking.* 365, 269, 209-G1 (1990)

LORENZETTI, D. Short Time Scale Variability of the BL Lacertae Object OJ 287 in the Near-Infrared. *D. Lorenzetti, E. Massaro, G. C. Perola, & L. Spinoglio.* 71, 175, 37-B1 (1989)

LORRE, J. J. The Dust and Gas Surrounding LkHα 101. *R. O. Redman, T. B. H. Kuiper, J. J. Lorre, & J. E. Gunn.* 303, 300, 44-C14 (1986)

LOSECCO, J. M. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

LOSS, R. D. Zinc Isotope Anomalies in Allende Meteorite Inclusions. *R. D. Loss & G. W. Lugmair.* 360, L59, 156-E7 (1990)

LOTAN, PNINA. The Varieties of Symmetric Stellar Rings and Radial Caustics in Galaxy Disks. *Curtis Struck-Marcell & Pnina Lotan.* 358, 99, 123-C1 (1990)

LOTKO, W. Evidence for Nonlinear Wave-Wave Interactions in Solar Type III Radio Bursts. *R. P. Lin, W. K. Levedahl, W. Lotko, D. A. Gurnett, & F. L. Scarf.* 308, 954, 119-D7 (1986)

LOU, Y. Q. The Damping of the Alvén Mode in Stochastic Astrophysical Fluids. *Y. Q. Lou & R. Rosner.* 309, 874, 130-G5 (1986)

A Computational Code for Two-dimensional Unsteady Magnetohydrodynamics by the Method of Characteristics. *Y. Q. Lou, R. Rosner, & P. Ulmschneider.* 315, 349, 43-F6 (1987)

Nonlinear Magnetohydrodynamic Waves in a Steady Zonal Circulation for a Shallow Fluid Shell on the Surface of a Rotating Sphere. *Y. Q. Lou.* 322, 862, 149-C4 (1987)

Modeling Solar Force-free Magnetic Fields. *B. C. Low & Y. Q. Lou.* 352, 343, 54-B9 (1990)

LOU, YU-QING. The Onset of Magnetohydrodynamic Convective Instability. I. Ideal Limit. *Yu-Qing Lou.* 347, 520, 188-D7 (1989)

Viscous Magnetohydrodynamic Modes and p-Mode Absorption by Sunspots. *Yu-Qing Lou.* 350, 452, 30-E3 (1990)

A Stability Study of Nonadiabatic Oscillations in Background Polytropes. *Yu-Qing Lou.* 361, 527, 164-F3 (1990)

LOUGHHEAD, R. E. High-Resolution Photography of the Solar Chromosphere. XXIII. Direct Measurement of the Optical Thickness of Hα Solar Loops. *R. J. Bray & R. E. Loughhead.* 301, 989, 26-E4 (1986)

LOUGHRAN, L. Multiband Far-Infrared Observations of the NGC 6334 Complex. *L. Loughran, B. McBreen, G. G. Fazio, T. N. Rengarajan, C. W. Maxson, S. Serio, S. Sciortino, & T. P. Ray.* 303, 629, 49-D3 (1986)

LOUSHIN, R. Analysis of Zeeman Effect Data in Radio Astronomy. *R. J. Sault, N. E. B. Killeen, J. Zmuidzinas, & R. Loushin.* 74, 437, 36-D5 (1990)

LOUSHIN, ROBERT. Observations of an Expanding Molecular Ring in S106. *Robert Loushin, Richard M. Crutcher, & John H. Bieging.* 362, L67, 181-D10 (1990)

LOVAS, F. J. Laboratory Measurement of the 1_{01}–0_{00} Transition and Electric Dipole Moment of SiC_2. *R. D. Suenram, F. J. Lovas, & K. Matsumura.* 342, L103, 117-G1 (1989)

Millimeter- and Submillimeter-Wave Surveys of Orion A Emission Lines in the Ranges 200.7–202.3, 203.7–205.3, and 330–360 GHz. *P. R. Jewell, J. M. Hollis, F. J. Lovas, & L. E. Snyder.* 70, 833, 31-D1 (1989)

A Search for Methylene in the Orion Nebula. *J. M. Hollis, P. R. Jewell, & F. J. Lovas.* 346, 794, 177-C1 (1989)

LOVELACE, R. V. E. On the Kelvin-Helmholtz Instabilities of High-Velocity Magnetized Shear Layers. *S. Roy Choudhury & R. V. E. Lovelace.* 302, 188, 30-A6 (1986)

Theory of Axisymmetric Magnetohydrodynamic Flows: Disks. *R. V. E. Lovelace, C. Mehanian, C. M. Mobarry, & M. E. Sulkanen.* 62, 1, 31-A5 (1986)

Magnetohydrodynamic Flows in Schwarzschild Geometry. *C. M. Mobarry & R. V. E. Lovelace.* 309, 455, 126-C1 (1986)

Refractive and Diffractive Scattering in the Interstellar Medium. *J. M. Cordes, A. Pidwerbetsky, & R. V. E. Lovelace.* 310, 737, 142-A9 (1986)

Self-collimated Electromagnetic Jets from Magnetized Accretion Disks. *R. V. E. Lovelace, J. C. L. Wang, & M. E. Sulkanen.* 315, 504, 46-C1 (1987)

Self-collimated Electromagnetic Jets from Magnetized Accretion Disks: The Even-Symmetry Case. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 355, 38, 87-D12 (1990)

LOVELACE, RICHARD V. E. Electrodynamic Formation of Astrophysical Jets: Simulations. *Galen Gisler, Richard V. E. Lovelace, & Michael L. Norman.* 342, 135, 102-E14 (1989)

Pulsar Magnetospheres with Jets. *Martin E. Sulkanen & Richard V. E. Lovelace.* 350, 732, 35-B6 (1990)

LOVELESS, R. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

LOW, B. C. Steady Hydromagnetic Flows in Open Magnetic Fields. I. A Class of Analytic Solutions. *B. C. Low & K. Tsinganos.* 302, 163, 29-F9 (1986)

The Three-dimensional Structure of Magnetostatic Atmospheres. II. Modeling the Large-Scale Corona. *T. J. Bogdan & B. C. Low.* 306, 271, 84-C10 (1986)

Blowup of Force-free Magnetic Fields in the Infinite Region of Space. *B. C. Low.* 307, 205, 97-C9 (1986)

Models of Partially Open Magnetospheres with and without Magnetodisks. *B. C. Low.* 310, 953, 144-D8 (1986)

Static Current-Sheet Models of Quiescent Prominences. *F. Wu & B. C. Low.* 312, 431, 5-E3 (1987)

Electric Current Sheet Formation in a Magnetic Field Induced by Continuous Magnetic Footpoint Displacements. *B. C. Low.* 323, 358, 157-A1 (1987)

Spontaneous Formation of Electric Current Sheets and the Origin of Solar Flares. *B. C. Low & R. Wolfson.* 324, 574, 7-E4 (1988)

On the Hydromagnetic Stability of a Class of Laminated Force-Free Magnetic Fields. *B. C. Low.* 330, 992, 103-D9 (1988)
Spontaneous Formation of Electric Current Sheets by the Expulsion of Magnetic Flux. *B. C. Low.* 340, 558, 74-B8 (1989)
Steady Hydromagnetic Flows in Open Magnetic Fields. II. Global Flows with Static Zones. *K. Tsinganos & B. C. Low.* 342, 1028, 115-A2 (1989)
Steady Hydromagnetic Flows in Open Magnetic Fields. III. Allowing for Variations of Density with Latitude and Nonalignment of Velocity with Magnetic Field. *Y. Q. Hu & B. C. Low.* 342, 1049, 115-B9 (1989)
Modeling Solar Force-free Magnetic Fields. *B. C. Low & Y. Q. Lou.* 352, 343, 54-B9 (1990)

LOW, F. J. Discovery of an Infrared-loud Quasar. *C. A. Beichman, B. T. Soifer, G. Helou, T. J. Chester, G. Neugebauer, F. C. Gillett, & F. J. Low.* 308, L1, 113-E11 (1986)
A Study of a Flux-limited Sample of IRAS Galaxies. *Beverly J. Smith, S. G. Kleinmann, J. P. Huchra, & F. J. Low.* 318, 161, 80-F5 (1987)
Infrared Color-selected Quasars and Seyfert 1 Galaxies. *F. J. Low, J. P. Huchra, S. G. Kleinmann, & R. M. Cutri.* 327, L41, 61-B2 (1988)
The Properties of Infrared Color-selected Quasars. *F. J. Low, R. M. Cutri, S. G. Kleinmann, & J. P. Huchra.* 340, L1, 75-C6 (1989)

LOW, FRANK J. *IRAS* Observations of a Small Sample of Blue Irregular Galaxies. *Deidre A. Hunter, Fred C. Gillett, John S. Gallagher III, Walter L. Rice, & Frank J. Low.* 303, 171, 42-G14 (1986)
A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)

LOWDER, D. M. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

LOWE, R. P. Search for HeH^+ in NGC 7027. *J. M. Moorhead, R. P. Lowe, J.-P. Maillard, W. H. Wehlau, & P. F. Bernath.* 326, 899, 43-D3 (1988)

LOWE, S. A. Modal Approach to the Morphology of Spiral Galaxies. I. Basic Structure and Astrophysical Viability. *G. Bertin, C. C. Lin, S. A. Lowe, & R. P. Thurstans.* 338, 78, 34-A3 (1989)
Modal Approach to the Morphology of Spiral Galaxies. II. Dynamical Mechanisms. *G. Bertin, C. C. Lin, S. A. Lowe, & R. P. Thurstans.* 338, 104, 34-C6 (1989)

LOWENTHAL, JAMES D. Spectroscopic Limits on High-Redshift Lyα Emission. *James D. Lowenthal, Craig J. Hogan, Robert W. Leach, Gary D. Schmidt, & Craig B. Foltz.* 357, 3, 111-B4 (1990)

LOZINSKAYA, T. A. The Extraordinary Mass-Loss Bubble G2.4+1.4 and Its Central Star. *M. A. Dopita, T. A. Lozinskaya, P. J. McGregor, & S. J. Rawlings.* 351, 563, 47-B1 (1990)
The Dynamics of the Extraordinary Mass-Loss Bubble G2.4+1.4. *M. A. Dopita & T. A. Lozinskaya.* 359, 419, 141-C1 (1990)

LU, EDWARD T. Rapid Temporal Evolution of Radiation from Nonthermal Electrons in Solar Flares. *Edward T. Lu & Vahé Petrosian.* 327, 405, 51-D7 (1988)
The Ratio of Microwaves to X-Rays in Solar Flares: The Case for the Thick-Target Model. *Edward T. Lu & Vahé Petrosian.* 338, 1122, 47-E3 (1989)
Numerical Solution of the Time-dependent Kinetic Equation for Electrons in Magnetized Plasma. *Russell J. Hamilton, Edward T. Lu, & Vahé Petrosian.* 354, 726, 85-C9 (1990)
The Relative Timing of Microwaves and X-Rays from Solar Flares. *Edward T. Lu & Vahé Petrosian.* 354, 735, 85-D5 (1990)

LU, N. Y. IRAS Galaxies at Low Galactic and High Supergalactic Latitudes. *M. W. Dow, N. Y. Lu, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 324, L51, 18-B9 (1988)
Identifying Galaxies in the Zone of Avoidance. *N. Y. Lu, M. W. Dow, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 357, 388, 117-D7 (1990)

LUAN, L. The Excitation of 12 Micron Emission from Very Small Particles. *K. Sellgren, L. Luan, & M. W. Werner.* 359, 384, 140-G1 (1990)

LUBIN, P. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

LUBIN, P. M. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

LUBOW, STEPHEN H. Cloud Collisional Damping of Spiral Density Waves in Galaxies. *Stephen H. Lubow.* 307, L39, 107-B1 (1986)
Star-Gas Density Waves in Spiral Galaxies. *Stephen H. Lubow, Steven A. Balbus, & Lennox L. Cowie.* 309, 496, 126-F2 (1986)
A Wave Focusing Model for Starbursts. *Stephen H. Lubow.* 328, L3, 66-D5 (1988)
On the Dynamics of Mass Transfer over an Accretion Disk. *Stephen H. Lubow.* 340, 1064, 81-E2 (1989)
On Mass Transport in Nonviscous, Non–Self-gravitating Fluid Disks. *Stephen H. Lubow.* 362, 395, 175-D5 (1990)

LUBOWICH, D. A. A Search for Localized Sources of Noncosmological Deuterium near the Galactic Center. *D. A. Lubowich, K. R. Anantharamaiah, & Jay M. Pasachoff.* 345, 770, 160-C5 (1989)

LUCAS, R. Linear Polarization of HCN Maser Emission in CIT 6. *P. F. Goldsmith, D. C. Lis, A. Omont, S. Guilloteau, & R. Lucas.* 333, 873, 149-G6 (1988)

LUCAS, ROBERT. The Rich Molecular Spectrum and the Rapid Outflow of OH 231.8+4.2. *Mark Morris, Stéphane Guilloteau, Robert Lucas, & Alain Omont.* 321, 888, 134-C5 (1987)

LUCCHIN, F. Multipole Anisotropies of the Cosmic Background Radiation and Inflationary Models. *R. Fabbri, F. Lucchin, & S. Matarrese.* 315, 1, 40-A7 (1987)

LUCCHIN, FRANCESCO. A Path-Integral Approach to Large-Scale Matter Distribution Originated by Non-Gaussian Fluctuations. *Sabino Matarrese, Francesco Lucchin, & Silvio A. Bonometto.* 310, L21, 138-B9 (1986)
Optical Bias and Hierarchical Clustering. *Silvio A. Bonometto, Francesco Lucchin, & Sabino Matarrese.* 323, 19, 153-C6 (1987)
Cold Dark Matter Dominated, Inflationary Universe with $\Omega_0 < 1$ and $n < 1$. *Nicola Vittorio, Sabino Matarrese, & Francesco Lucchin.* 328, 69, 62-F9 (1988)
Scale-Invariant Clustering and Primordial Biasing. *Francesco Lucchin, Sabino Matarrese, & Nicola Vittorio.* 330, L21, 96-E1 (1988)
The Effect of Non-Gaussian Statistics on the Mass Multiplicity of Cosmic Structures. *Francesco Lucchin & Sabino Matarrese.* 330, 535, 98-D3 (1988)
The Mass Function from Local Density Maxima: Groups and Clusters of Galaxies. *Sergio Colafrancesco, Francesco Lucchin, & Sabino Matarrese.* 345, 3, 149-A11 (1989)

LUCEY, J. R. Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)

LUCIANI, J. F. On the Antonov Criterion for Gravothermal Instability. *J. F. Luciani & R. Pellat.* 317, 241, 66-E8 (1987)

LUCK, R. EARLE. Nitrogen and Sulfur Overabundances in the Population II Supergiant HD 46703. *Howard E. Bond & R. Earle Luck.* 312, 203, 3-B10 (1987)
The Peculiar Supergiant HR 4049. *David L. Lambert, Kenneth H. Hinkle, & R. Earle Luck.* 333, 917, 150-D1 (1988)
s-Process Deficiencies in Low-Mass Supergiant Variables. *R. Earle Luck & Howard E. Bond.* 342, 476, 106-E8 (1989)
Supergiants and the Galactic Metallicity Gradient. II. Spectroscopic Abundances for 64 Distant F- to M-Type Supergiants. *R. Earle Luck & Howard E. Bond.* 71, 559, 43-F5 (1989)
Chemical Compositions of Four High-Latitude A–F Supergiants. *R. Earle Luck, Howard E. Bond, & David L. Lambert.* 357, 188, 113-D3 (1990)

LUFKIN, ERIC A. The Gravitational Collapse of Gaseous Spheres and Galaxy Formation. *Roger A. Chevalier & Eric A. Lufkin.* 356, 41, 99-E3 (1990)

LUGGER, P. M. Discovery of a Possible X-Ray Triple: 4U 1915−05. *J. E. Grindlay, C. D. Bailyn, H. Cohn, P. M. Lugger, J. R. Thorstensen, & G. Wegner.* 334, L25, 161-C9 (1988)

Four X-Ray–selected Cataclysmic Variables in the Galactic Plane. *P. Hertz, C. D. Bailyn, J. E. Grindlay, M. R. Garcia, H. Cohn, & P. M. Lugger.* 364, 251, 197-B8 (1990)

LUGGER, PHYLLIS M. Luminosity Functions for Nine Abell Clusters. *Phyllis M. Lugger.* 303, 535, 48-C13 (1986)

CCD Photometry of Globular Cluster Core Structure. I. NGC 6388, NGC 6624, and M15—One Flat Core and Two Cusps. *Phyllis M. Lugger, Haldan Cohn, Jonathan E. Grindlay, Charles D. Bailyn, & Paul Hertz.* 320, 482, 114-F8 (1987)

Color Maps of X-Ray Globular Clusters. *Charles D. Bailyn, Jonathan E. Grindlay, Haldan Cohn, & Phyllis M. Lugger.* 331, 303, 109-D10 (1988)

An Investigation of Intracluster Variation of the Galaxy Luminosity Function in Abell Clusters. *Phyllis M. Lugger.* 343, 572, 126-C10 (1989)

LUGMAIR, G. W. Zinc Isotope Anomalies in Allende Meteorite Inclusions. *R. D. Loss & G. W. Lugmair.* 360, L59, 156-E7 (1990)

LUGTEN, J. B. Observations of Far-Infrared Line Profiles in the Orion-KL Region. *M. K. Crawford, J. B. Lugten, W. Fitelson, R. Genzel, & G. Melnick.* 303, L57, 53-D7 (1986)

[C II] 158 Micron Mapping in Sagittarius A: Rotation Curve and Mass Distribution in the Galactic Center. *J. B. Lugten, R. Genzel, M. K. Crawford, & C. H. Townes.* 306, 691, 92-B4 (1986)

The Interstellar Medium in the Central 1 Kiloparsec of M82. *J. B. Lugten, D. M. Watson, M. K. Crawford, & R. Genzel.* 311, L51, 160-C5 (1986)

Detection of Interstellar CH in the Far-Infrared. *Gordon J. Stacey, J. B. Lugten, & R. Genzel.* 313, 859, 26-B9 (1987)

Interpretation of Rotationally Excited Far-Infrared OH Emission in Orion-KL. *G. J. Melnick, R. Genzel, & J. B. Lugten.* 321, 530, 127-G10 (1987)

Submillimeter and Far-Infrared Spectroscopy of M17 and S106: UV-heated, Quiescent Molecular Gas? *A. I. Harris, J. Stutzki, R. Genzel, J. B. Lugten, G. J. Stacey, & D. T. Jaffe.* 322, L49, 145-D6 (1987)

Submillimeter and Far-Infrared Line Observations of M17 SW: A Clumpy Molecular Cloud Penetrated by Ultraviolet Radiation. *J. Stutzki, G. J. Stacey, R. Genzel, A. I. Harris, D. T. Jaffe, & J. B. Lugten.* 332, 379, 127-C6 (1988)

Strong, Spatially Extended CO 7→6 Emission from Luminous Cloud Cores: W52 and DR 21. *D. T. Jaffe, R. Genzel, A. I. Harris, J. B. Lugten, G. J. Stacey, & J. Stutzki.* 344, 265, 136-C10 (1989)

Further Observations of Rotationally Excited Far-Infrared ^{16}OH and ^{18}OH Emission in Orion-KL: Tighter Constraints on the Nature of the Emitting Region. *G. J. Melnick, G. J. Stacey, R. Genzel, J. B. Lugten, & A. Poglitsch.* 348, 161, 3-A10 (1990)

LUHN, A. Calculation of the Mean Equilibrium Charges of Energetic Ions after Passing through a Hot Plasma. *A. Luhn & D. Hovestadt.* 317, 852, 75-D1 (1987)

The Mean Ionic Charge of Silicon in ^{3}He-rich Solar Flares. *A. Luhn, B. Klecker, D. Hovestadt, & E. Möbius.* 317, 951, 76-E2 (1987)

LUI, A. V471 Tauri: A Three-Body Orbit. *W. I. Beavers, T. J. Herczeg, & A. Lui.* 300, 785, 11-G1 (1986)

LUM, KENNETH S. K. High-Resolution X-Ray Spectroscopy of Four Active Galaxies: Probing the Intercloud Medium. *Kenneth S. K. Lum, Claude R. Canizares, Thomas H. Markert, & Keith A. Arnaud.* 358, 139, 123-F11 (1990)

LUMINET, JEAN-PIERRE. Dynamics of an Affine Star Model in a Black Hole Tidal Field. *Jean-Pierre Luminet & Brandon Carter.* 61, 219, 20-A5 (1986)

LUND, P. A. On the Anomalous Abundances of the 2×10^4–2×10^5 K Solar Atmosphere above a Sunspot. *U. Feldman, K. G. Widing, & P. A. Lund.* 364, L21, 199-D1 (1990)

LUNDQVIST, PETER. Probing the First Hours in the Life of SN 1987A. *Claes Fransson & Peter Lundqvist.* 341, L59, 99-G1 (1989)

LUNINE, JONATHAN I. Evolution and Infrared Spectra of Brown Dwarfs. *Jonathan I. Lunine, William B. Hubbard, & Mark S. Marley.* 310, 238, 134-F2 (1986)

Evolution and Infrared Spectra of Brown Dwarfs: Erratum. *Jonathan I. Lunine, William B. Hubbard, & Mark S. Marley.* 316, 473, 55-B13 (1987) (Orig. paper in 310, 238, 134-F2 (1986))

The Effect of Gas and Grain Opacity on the Cooling of Brown Dwarfs. *Jonathan I. Lunine, W. B. Hubbard, Adam Burrows, Y-P. Wang, & K. Garlow.* 338, 314, 36-F11 (1989)

Theoretical Models of Very Low Mass Stars and Brown Dwarfs. *Adam Burrows, W. B. Hubbard, & Jonathan I. Lunine.* 345, 939, 162-C1 (1989)

The Periodicities in the Infrared Excess of G29–38: An Oscillating Brown Dwarf? *Mark S. Marley, Jonathan I. Lunine, & William B. Hubbard.* 348, L37, 6-D8 (1990)

The Initial Mass Function for Very Low Mass Stars in the Hyades. *W. B. Hubbard, Adam Burrows, & Jonathan I. Lunine.* 358, L53, 133-D1 (1990)

LUO, DING. Oscillator Strengths for Si II. *Ding Luo, Anil K. Pradhan, & J. Michael Shull.* 335, 498, 176-C9 (1988)

X-Rays from Colliding Stellar Winds. *Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 362, 267, 172-E1 (1990)

LUPPINO, GERARD A. Surface Brightness Fluctuations and the Distance to the Virgo Cluster. *John L. Tonry, Edward A. Ajhar, & Gerard A. Luppino.* 346, L57, 181-B8 (1989)

LUPTON, ROBERT H. The Internal Velocity Dispersions of Three Young Star Clusters in the Large Magellanic Cloud. *Robert H. Lupton, S. Michael Fall, Kenneth C. Freeman, & Rebecca A. W. Elson.* 347, 201, 184-E8 (1989)

LUTTERMOSER, DONALD G. Ultraviolet Spectra and Chromospheres of Cool Carbon Stars. *Hollis R. Johnson & Donald G. Luttermoser.* 314, 329, 31-F9 (1987)

The Violet and Ultraviolet Opacity Problem for Carbon Stars. *Hollis R. Johnson, Donald G. Luttermoser, & Danny R. Faulkner.* 332, 421, 127-F8 (1988)

Chromospheric Structure of Cool Carbon Stars. *Donald G. Luttermoser, Hollis R. Johnson, Eugene H. Avrett, & Rudolf Loeser.* 345, 543, 155-G3 (1989)

Stochastic Shock Waves as a Candidate Mechanism for the Formation of the He I λ10830 Line in Cool Giant Stars. *Manfred Cuntz & Donald G. Luttermoser.* 353, L39, 73-B1 (1990)

LUTZ, B. L. The Albedo of Titan. *G. W. Lockwood, B. L. Lutz, D. T. Thompson, & E. S. Bus.* 303, 511, 46-F2 (1986)

Monodeuterated Methane in the Outer Solar System. II. Its Detection on Uranus at 1.6 Microns. *C. de Bergh, B. L. Lutz, T. Owen, J. Brault, & J. Chauville.* 311, 501, 151-D14 (1986)

Spectrophotometry of Epsilon Aurigae. *D. T. Thompson, B. L. Lutz, G. W. Lockwood, & J. R. Sowell.* 321, 450, 127-B1 (1987)

Monodeuterated Methane in the Outer Solar System. III. Its Abundance on Titan. *C. de Bergh, B. L. Lutz, T. Owen, & J. Chauville.* 329, 951, 87-E1 (1988)

Monodeuterated Methane in the Outer Solar System. IV. Its Detection and Abundance on Neptune. *C. de Bergh, B. L. Lutz, T. Owen, & J.-P. Maillard.* 355, 661, 96-G1 (1990)

LUTZ, BARRY L. Temporal Variability of Comet IRAS-Araki-Alcock 1983d: The May 10 Event. *Barry L. Lutz & R. Mark Wagner.* 308, 993, 120-A1 (1986)

Fluorescence Efficiency Factors for Ionized Water Vapor. *Barry L. Lutz.* 315, L147, 49-G2 (1987)

Ground-based Constraints on the H_2O^+/CO^+ Abundance Ratio and Dust Impact Rate in Comet P/Giacobini-Zinner: Comparison with the *ICE* Spacecraft Results. *R. Mark Wagner, Barry L. Lutz, & S. Wyckoff.* 322, 544, 143-G9 (1987)

Anomalous Molecular Abundances and the Depletion of NH_2 in Comet P/Giacobini-Zinner. *John E. Beaver, R. Mark Wagner, David G. Schleicher, & Barry L. Lutz.* 360, 696, 154-G1 (1990)

LUTZ, JULIE H. A Case Study of a WC Planetary Nebula Nucleus: Henize 2-99. *James B. Kaler, Richard A. Shaw, Walter A. Feibelman, & Julie H. Lutz.* 70, 213, 21-C1 (1989)

He 2–104: A Symbiotic Proto–Planetary Nebula? *Hugo E. Schwarz, Colin Aspin, & Julie H. Lutz.* 344, L29, 140-C8 (1989)

LUU, JANE. The Submillimeter Radio Continuum of Comet P/Brorsen-Metcalf. *David Jewitt & Jane Luu.* 365, 738, 217-D10 (1990)

LUYTEN, WILLEM J. Identifications and Limited Spectroscopy for Luyten Common Proper-Motion Stars with Probable White Dwarf Components. I. Pairs Brighter than 17th Magnitude. *Terry D. Oswalt, Paul M. Hintzen, & Willem J. Luyten.* 66, 391, 8-E1 (1988)

LYNCH, D. Infrared Imaging of Faculae at the Deepest Photospheric Layers. *P. Foukal, R. Little, J. Graves, D. Rabin, & D. Lynch.* 353, 712, 72-F1 (1990)

LYNCH, D. K. Infrared Observations of SN 1987A from 5.3 to 12.6 Microns: Evidence for an Early Dust Echo. *D. M. Rank, J. Bregman, F. C. Witteborn, M. Cohen, D. K. Lynch, & R. W. Russell.* 325, L1, 25-A4 (1988)

LYNCH, DAVID K. Airborne Spectrophotometry of Eta Carinae from 4.5 to 7.5 Microns and a Model for Source Morphology. *Ray W. Russell, David K. Lynch, John A. Hackwell, Richard J. Rudy, George S. Rossano, & M. W. Castelaz.* 321, 937, 134-F12 (1987)

LYNDEN-BELL, D. Photometry and Spectroscopy of Elliptical Galaxies. V. Galaxy Streaming toward the New Supergalactic Center. *D. Lynden-Bell, S. M. Faber, David Burstein, Roger L. Davies, Alan Dressler, R. J. Terlevich, & Gary Wegner.* 326, 19, 32-B12 (1988)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 69, 763, 12-G7 (1989)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary: Erratum. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 71, 173, 36-E7 (1989) (Orig. paper in 69, 763, 12-G7 (1989))

LYNDEN-BELL, DONALD. Spectroscopy and Photometry of Elliptical Galaxies. I. New Distance Estimator. *Alan Dressler, Donald Lynden-Bell, David Burstein, Roger L. Davies, S. M. Faber, Roberto Terlevich, & Gary Wegner.* 313, 42, 15-D7 (1987)

Spectroscopy and Photometry of Elliptical Galaxies: A Large-Scale Streaming Motion in the Local Universe. *Alan Dressler, S. M. Faber, David Burstein, Roger L. Davies, Donald Lynden-Bell, R. J. Terlevich, & Gary Wegner.* 313, L37, 27-A9 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. II. The Spectroscopic Parameters. *Roger L. Davies, David Burstein, Alan Dressler, S. M. Faber, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 581, 26-B1 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. III. *UBV* Aperture Photometry, CCD Photometry, and Magnitude-related Parameters. *David Burstein, Roger L. Davies, Alan Dressler, S. M. Faber, Remington P. S. Stone, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 601, 26-C7 (1987)

LYNDS, BEVERLY T. An Optical Study of NGC 7538. *Beverly T. Lynds & Earl J. O'Neil, Jr.* 306, 532, 90-C6 (1986)

LYNDS, ROGER. Luminous Arcs in Clusters of Galaxies. *Roger Lynds & Vahé Petrosian.* 336, 1, 1-A9 (1989)

Gravitational Lens Models of Arcs in Clusters. *Anton G. Bergmann, Vahé Petrosian, & Roger Lynds.* 350, 23, 25-C11 (1990)

LYNE, A. G. Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

LYNE, ANDREW G. Three Fields Containing Young Pulsars: The Observable Lifetime of Supernova Remnants. *Robert Braun, W. Miller Goss, & Andrew G. Lyne.* 340, 355, 71-D11 (1989)

LYNN, BRYAN W. New Models for Neutron Stars. *Safi Bahcall, Bryan W. Lynn, & Stephen B. Selipsky.* 362, 251, 172-C7 (1990)

LYONS, R. Ultraviolet, Optical, Infrared, and Microwave Observations of HR 5110. *I. R. Little-Marenin, Theodore Simon, T. R. Ayres, N. L. Cohen, P. A. Feldman, J. L. Linsky, S. J. Little, & R. Lyons.* 303, 780, 51-B1 (1986)

LYONS, RON. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

LYTH, DAVID H. The Evolution of Density Perturbations in the Universe. *David H. Lyth & Ewan D. Stewart.* 361, 343, 162-D7 (1990)

LYTHE, G. D. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

MA, C. P. The Evolutionary Status of 4U 1820−30. *S. Rappaport, L. A. Nelson, C. P. Ma, & P. C. Joss.* 322, 842, 149-A12 (1987)

4U 1626−67: The Binary with the Smallest Known Mass Function. *A. Levine, C. P. Ma, J. McClintock, S. Rappaport, M. van der Klis, & F. Verbunt.* 327, 732, 56-E14 (1988)

MACALPINE, GORDON M. Emission-Line Galaxies in the Bootes Void. *J. Ward Moody, Robert P. Kirshner, Gordon M. MacAlpine, & Stephen A. Gregory.* 314, L33, 39-A13 (1987)

The Geometry, Composition, and Mass of the Crab Nebula. *Gordon M. MacAlpine, Stacy S. McGaugn, Joseph M. Mazzarella, & Alan Uomoto.* 342, 364, 105-C10 (1989)

Observations of a Complete Sample of Emission-Line Galaxies. I. CCD Imaging and Spectroscopy of Galaxies in UM Lists IV and V. *John J. Salzer, Gordon M. MacAlpine, & Todd A. Boroson.* 70, 447, 25-B1 (1989)

Observations of a Complete Sample of Emission-Line Galaxies. II. Properties of the UM Survey Galaxies. *John J. Salzer, Gordon M. MacAlpine, & Todd A. Boroson.* 70, 479, 25-D6 (1989)

MACCACARO, T. New X-Ray and Optical Observations of the X-Ray Discovered QSO-Galaxy Pair 1E 0104.2+3153. *Isabella M. Gioia, T. Maccacaro, R. E. Schild, P. Giommi, & J. T. Stocke.* 307, 497, 102-B8 (1986)

1E 0116.3−0116: A Peculiar, X-Ray–Bright, Early-Type Galaxy. *D. Maccagni, I. M. Gioia, T. Maccacaro, R. E. Schild, & J. T. Stocke.* 316, 132, 51-D6 (1987)

Inverse Compton Scattering of Ambient Radiation by a Cold Relativistic Jet: A Source of Beamed, Polarized X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *Mitchell C. Begelman, Marek Sikora, P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 650, 146-G12 (1987)

X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 662, 147-A10 (1987)

A Red Envelope around a Dominant Elliptical Galaxy in an X-Ray Selected Poor Cluster. *D. Maccagni, B. Garilli, I. M. Gioia, T. Maccacaro, G. Vettolani, & A. Wolter.* 334, L1, 161-A6 (1988)

The *Einstein Observatory* Extended Medium-Sensitivity Survey. I. X-Ray Data and Analysis. *I. M. Gioia, T. Maccacaro, R. E. Schild, A. Wolter, J. T. Stocke, S. L. Morris, & J. P. Henry.* 72, 567, 10-C11 (1990)

The Extended Medium-Sensitivity Survey Distant Cluster Sample: X-Ray Cosmological Evolution. *I. M. Gioia, J. P. Henry, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 356, L35, 110-A10 (1990)

Space Distribution of Extragalactic Sources: Cosmology versus Evolution. *A. Cavaliere & T. Maccacaro.* 358, 1, 122-A11 (1990)

MACCACARO, TOMMASO. On the Relationship between Optically Selected and X-Ray–selected Active Galactic Nuclei. *Alberto Franceschini, Isabella M. Gioia, & Tommaso Maccacaro.* 301, 124, 15-C9 (1986)

Rapid X-Ray and Optical Variability in the X-Ray–selected BL Lacertae Object 1E 1402.3+0416. *Paolo Giommi, Paul Barr, Isabella M. Gioia, Tommaso Maccacaro, Rudolph Schild, Bianca Garilli, & Dario Maccagni.* 303, 596, 49-A10 (1986)

On the Completeness of the Medium-Sensitivity Survey Quasar Sample. *Tommaso Maccacaro & Isabella M. Gioia.* 303, 614, 49-C2

(1986)
Number-Counts Slope Estimation in the Presence of Poisson Noise. *Jürgen H. M. M. Schmitt & Tommaso Maccacaro.* 310, 334, 135-F2 (1986)
1E 1048.5+5421: A New 114 Minute AM Herculis Binary. *Simon L. Morris, Gary D. Schmidt, James Liebert, John Stocke, Isabella M. Gioia, & Tommaso Maccacaro.* 314, 641, 36-E8 (1987)
X-Ray–selected AGNs near Bright Galaxies. *John T. Stocke, Peter Schneider, Simon L. Morris, Isabella M. Gioia, Tommaso Maccacaro, & Rudolph E. Schild.* 315, L11, 45-A14 (1987)
The X-Ray Spectra of the Extragalactic Sources in the *Einstein* Extended Medium-Sensitivity Survey. *Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, Giovanni Zamorani, & John T. Stocke.* 326, 680, 41-B3 (1988)
M Dwarfs from the *Einstein* Extended Medium-Sensitivity Survey. *Thomas A. Fleming, James Liebert, Isabella M. Gioia, & Tommaso Maccacaro.* 331, 958, 119-E1 (1988)
The Relation between X-Ray Emission and Rotation in Late-Type Stars from the Perspective of X-Ray Selection. *Thomas A. Fleming, Isabella M. Gioia, & Tommaso Maccacaro.* 340, 1011, 80-G8 (1989)
A Cooling Flow in a High-Redshift, X-Ray–selected Cluster of Galaxies. *Roberto Nesci, Isabella M. Gioia, Tommaso Maccacaro, Simon L. Morris, Giuseppe C. Perola, Rudolph E. Schild, & Anna Wolter.* 344, 104, 134-C11 (1989)
No Evidence for Radio-quiet BL Lacertae Objects. *John T. Stocke, Simon L. Morris, Isabella Gioia, Tommaso Maccacaro, R. E. Schild, & A. Wolter.* 348, 141, 2-F11 (1990)

MACCAGNI, D. X-Ray Variability of the BL Lacertae Object PKS 2155–304 in the 0.1–6 keV Range. *M. Morini, L. Chiappetti, D. Maccagni, L. Maraschi, D. Molteni, E. G. Tanzi, A. Treves, & A. Wolter.* 306, L71, 93-G5 (1986)
1E 0116.3–0116: A Peculiar, X-Ray–Bright, Early-Type Galaxy. *D. Maccagni, I. M. Gioia, T. Maccacaro, R. E. Schild, & J. T. Stocke.* 316, 132, 51-D6 (1987)
Inverse Compton Scattering of Ambient Radiation by a Cold Relativistic Jet: A Source of Beamed, Polarized X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *Mitchell C. Begelman, Marek Sikora, P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 650, 146-G12 (1987)
X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 662, 147-A10 (1987)
The Detection of a High-Energy Break in the X-Ray Spectrum of the BL Lacertae Object PKS 0548–32. *P. Barr, P. Giommi, & D. Maccagni.* 324, L11, 9-A13 (1988)
A Red Envelope around a Dominant Elliptical Galaxy in an X-Ray Selected Poor Cluster. *D. Maccagni, B. Garilli, I. M. Gioia, T. Maccacaro, G. Vettolani, & A. Wolter.* 334, L1, 161-A6 (1988)
Simultaneous X-Ray, Ultraviolet, and Optical Observations of the BL Lacertae Object PKS 2155–304. *A. Treves, M. Morini, L. Chiappetti, A. Fabian, R. Falomo, D. Maccagni, L. Maraschi, E. G. Tanzi, & G. Tagliaferri.* 341, 733, 94-D5 (1989)
Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)
A Study of BL Lacertae–Type Objects with *EXOSAT*. I. Flux Correlations, Luminosity, Variability, and Spectral Variability. *P. Giommi, P. Barr, B. Garilli, D. Maccagni, & A. M. T. Pollock.* 356, 432, 105-F1 (1990)

MACCAGNI, DARIO. Rapid X-Ray and Optical Variability in the X-Ray–selected BL Lacertae Object 1E 1402.3+0416. *Paolo Giommi, Paul Barr, Isabella M. Gioia, Tommaso Maccacaro, Rudolph Schild, Bianca Garilli, & Dario Maccagni.* 303, 596, 49-A10 (1986)

MACCALLUM, C. J. Current Status of the Galactic Center Positron-Annihilation Source. *M. Leventhal, C. J. MacCallum, A. F. Huters, & P. D. Stang.* 302, 459, 33-C3 (1986)
Observations of Gamma-Ray Line Profiles from SN 1987A. *J. Tueller, S. Barthelmy, N. Gehrels, B. J. Teegarden, M. Leventhal, & C. J. MacCallum.* 351, L41, 49-D1 (1990)

MACCALLUM, CRAWFORD J. Prospects for Observations of Nucleosynthetic Gamma-Ray Lines and Continuum from SN 1987A. *Neil Gehrels, Crawford J. MacCallum, & Marvin Leventhal.* 320, L19, 114-B10 (1987)
Prospects for Gamma-Ray Line Observations of Individual Supernovae. *Neil Gehrels, Marvin Leventhal, & Crawford J. MacCallum.* 322, 215, 140-C3 (1987)

MACCHETTO, DUCCIO. Polarization and Visual Intensity of the Inner Light Echo around SN 1987A. *William B. Sparks, Francesco Paresce, & Duccio Macchetto.* 347, L65, 199-C2 (1989)

MACCHETTO, F. The Quasar Pair Tololo 1037–27 and 1038–27: Evidence for Correlated Absorption Megaparsec Scales. *P. Jakobsen, M. A. C. Perryman, M. H. Ulrich, F. Macchetto, & S. di Serego Alighieri.* 303, L27, 53-B6 (1986)
Imaging Observations of Gas and Dust in NGC 4696 and Implications for Cooling Flow Models. *W. B. Sparks, F. Macchetto, & D. Golombek.* 345, 153, 151-A1 (1989)
The Structure and Ionization of the Extended Emission-Line Filaments Surrounding the QSO MR 2251–178. *F. Macchetto, L. Colina, D. Golombek, M. A. C. Perryman, & S. di Serego Alighieri.* 356, 389, 105-A13 (1990)
Polarization of the Jet of PKS 0521–36. *W. B. Sparks, G. K. Miley, & F. Macchetto.* 361, L41, 168-B6 (1990)

MACCHETTO, F. D. High-Resolution Imaging of the Double QSO 2345+007: Evidence for Subcomponents. *J.-L. Nieto, S. Roques, A. Llebaria, Ch. Vanderriest, G. Lelièvre, S. di Serego Alighieri, F. D. Macchetto, & M. A. C. Perryman.* 325, 644, 27-E8 (1988)
Near-Ultraviolet Emission from 3C 66B and Its Jet. *D. Fraix-Burnet, J.-L. Nieto, G. Lelièvre, F. D. Macchetto, M. A. C. Perryman, & S. di Serego Alighieri.* 336, 121, 2-E1 (1989)

MACCULLUM, C. J. A New Constraint on the Galactic Plane ^{26}Al Distribution. *C. J. MacCullum, A. F. Huters, P. D. Stang, & M. Leventhal.* 317, 877, 75-F1 (1987)

MACDONALD, JAMES. An Atmospheric Analysis of the Carbon-rich White Dwarf G35-26. *Peter Thejll, Harry L. Shipman, James MacDonald, & W. M. MacFarland.* 361, 197, 159-D5 (1990)

MACDONALD, JIM. The Effects of Diffusion Due to Gravity and Due to Composition Gradients on the Rate of Hydrogen Burning in a Cooling Degenerate Dwarf. II. Dependence on Initial Metallicity and on Buffer Mass. *Icko Iben, Jr., & Jim MacDonald.* 301, 164, 15-F7 (1986)
Postthermonuclear Runaway Angular Momentum Loss in Cataclysmic Binaries. *Jim MacDonald.* 305, 251, 69-F9 (1986)

MACDOWALL, R. J. Solar Flare Nuclear Gamma Rays and Interplanetary Proton Events. *E. W. Cliver, D. J. Forrest, H. V. Cane, D. V. Reames, R. E. McGuire, T. T. von Rosenvinge, S. R. Kane, & R. J. MacDowall.* 343, 953, 131-A1 (1989)

MACEDO, P. Perturbation of Larmor Orbits by a Gravitational Wave. *P. Macedo & H. Nelson.* 362, 584, 178-A9 (1990)

MACFARLAND, W. M. An Atmospheric Analysis of the Carbon-rich White Dwarf G35-26. *Peter Thejll, Harry L. Shipman, James MacDonald, & W. M. MacFarland.* 361, 197, 159-D5 (1990)

MACFARLANE, JOSEPH J. Shock-generated X-Ray Emission in Radiatively Driven Winds: A Model for Tau Scorpii. *Joseph J. MacFarlane & Joseph P. Cassinelli.* 347, 1090, 197-A13 (1989)

MACGREGOR, K. B. On the Size of Convective Cores in Rotating, Upper-Main-Sequence Stars. *K. B. MacGregor & Ronald L. Gilliland.* 310, 273, 135-A9 (1986)
Winds from Rotating, Magnetic, Hot Stars. III. The Azimuthal Velocity and Magnetic Force. *K. B. MacGregor & D. B. Friend.* 312, 659, 10-B6 (1987)
Nonspherical Expansion of Radiation-driven Winds. *K. B. MacGregor.* 327, 794, 57-C13 (1988)

MACGREGOR, KEITH B. High-Latitude Spot and Plage Activity on the Rapidly Rotating M Dwarf Star Gliese 890. *Arthur Young, Andrew Skumanich, Keith B. MacGregor, & Scott Temple.* 349, 608, 22-G3 (1990)
Lower Solar Chromosphere-Corona Transition Region. I. Theoretical Models with Small Temperature Gradients. *D. Tod Woods, Thomas E. Holzer, & Keith B. MacGregor.* 355, 295, 90-E4 (1990)

Lower Solar Chromosphere-Corona Transition Region. III. Implications of the Observed Quiet-Sun Emission Measure Including Wave Pressure Effects. *D. Tod Woods, Thomas E. Holzer, & Keith B. MacGregor.* 355, 309, 90-F6 (1990)

Lower Solar Chromosphere-Corona Transition Region. II. Wave Pressure Effects for a Specific Form of the Heating Function. *D. Tod Woods, Thomas E. Holzer, & Keith B. MacGregor.* 73, 489, 25-B5 (1990)

MACHADO, M. E. Evidence for Gentle Chromospheric Evaporation during the Gradual Phase of Large Solar Flares. *B. Schmieder, T. G. Forbes, J. M. Malherbe, & M. E. Machado.* 317, 956, 76-E8 (1987)

MACHADO, MARCOS E. The Observed Characteristics of Flare Energy Release. I. Magnetic Structure at the Energy Release Site. *Marcos E. Machado, Ronald L. Moore, Ana M. Hernandez, Marta G. Rovira, Mona J. Hagyard, & Jesse B. Smith, Jr.* 326, 425, 37-A1 (1988)

The Observed Characteristics of Flare Energy Release. II. High-Speed Soft X-Ray Fronts. *Marcos E. Machado, Y. C. Xiao, S. T. Wu, Th. Prokakis, & D. Dialetis.* 326, 451, 37-C2 (1988)

The White-Light Flare of 1982 June 15: Models. *Pablo J. D. Mauas, Marcos E. Machado, & Eugene H. Avrett.* 360, 715, 155-A9 (1990)

MACKENTY, J. W. The Nature of the Extended Emission Features in IRAS 04210+0400. *G. J. Hill, C. G. Wynn-Williams, E. E. Becklin, & J. W. MacKenty.* 335, 93, 171-C3 (1988)

MACKENTY, JOHN W. An Unusual Jetlike Feature Associated with the Seyfert Galaxy Markarian 315. *John W. MacKenty.* 308, 571, 115-B11 (1986)

Extended Emission-Line Regions around QSOs. *Alan Stockton & John W. MacKenty.* 316, 584, 58-D3 (1987)

Seyfert Galaxies. II. Environments and *IRAS* Colors. *John W. MacKenty.* 343, 125, 119-F5 (1989)

Seyfert Galaxies. I. Morphologies, Magnitudes, and Disks. *John W. MacKenty.* 72, 231, 5-B1 (1990)

MACKEY, WILLIE R. The Light of the Supernova Outburst. IV. Lowered Energy for the Echo Model. *Willie R. Mackey.* 315, 251, 42-F6 (1987)

MACKIE, GLEN. The Stellar Content of Central Dominant Galaxies. I. CCD Surface Photometry. *Glen Mackie, N. Visvanathan, & D. Carter.* 73, 637, 26-D13 (1990)

MACKIE, P. C. New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

MACKINNON, A. L. Beam Heating in Solar Flares: Electrons or Protons? *J. C. Brown, M. Karlicky, A. L. MacKinnon, & G. H. J. van den Oord.* 73, 343, 22-D9 (1990)

MACKLIN, R. L. Maxwellian-averaged Neutron Capture Cross Sections for ^{99}Tc and $^{95-98}$Mo. *R. R. Winters & R. L. Macklin.* 313, 808, 25-E10 (1987)

Resonance Neutron Capture by ^{20,22}Ne in Stellar Environments. *R. R. Winters & R. L. Macklin.* 329, 943, 87-D5 (1988)

The ^{151}Sm Branching: A Probe for the Irradiation Time Scale of the *s*-Process. *H. Beer & R. L. Macklin.* 331, 1047, 120-E1 (1988)

Measurement of the ^{85}Rb and ^{87}Rb Capture Cross Sections for *s*-Process Studies. *H. Beer & R. L. Macklin.* 339, 962, 63-E9 (1989)

Neutron Capture by ^{12}C at Stellar Temperatures. *R. L. Macklin.* 357, 649, 120-F1 (1990)

MACLAREN, I. Corrections to Virial Estimates of Molecular Cloud Masses. *I. MacLaren, K. M. Richardson, & A. W. Wolfendale.* 333, 821, 149-C7 (1988)

The Size–Line Width Relation and the Mass of Molecular Hydrogen. *M. Issa, I. MacLaren, & A. W. Wolfendale.* 352, 132, 51-F1 (1990)

MACLEOD, J. M. Observations of OCS and a Search for OC_3S in the Interstellar Medium. *H. E. Matthews, J. M. MacLeod, N. W. Broten, S. C. Madden, & P. Friberg.* 315, 646, 47-F7 (1987)

CO Spectroscopy of the W48 Molecular Cloud near 1.3 Millimeters. *J. P. Vallée & J. M. MacLeod.* 358, 183, 124-D1 (1990)

MAC LOW, MORDECAI-MARK. Molecular Processes and Gravitational Collapse in Intergalactic Shocks. *Mordecai-Mark Mac Low & J. Michael Shull.* 302, 585, 37-A7 (1986)

Superbubbles in Disk Galaxies. *Mordecai-Mark Mac Low & Richard McCray.* 324, 776, 11-G9 (1988)

Superbubble Blowout Dynamics. *Mordecai-Mark Mac Low, Richard McCray, & Michael L. Norman.* 337, 141, 19-A1 (1989)

Cometary Compact H II Regions Are Stellar-Wind Bow Shocks. *Dave Van Buren, Mordecai-Mark Mac Low, Douglas O. S. Wood, & Ed Churchwell.* 353, 570, 71-A8 (1990)

X-Rays from Colliding Stellar Winds. *Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 362, 267, 172-E1 (1990)

X-Rays from Superbubbles in the Large Magellanic Cloud. *You-Hua Chu & Mordecai-Mark Mac Low.* 365, 510, 214-D9 (1990)

MACOMB, D. Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

MADAU, P. Neutron Starquake Models for Gamma-Ray Bursts. *O. Blaes, R. Blandford, P. Goldreich, & P. Madau.* 343, 839, 129-F1 (1989)

Slowly Accreting Neutron Stars and the Origin of Gamma-Ray Bursts. *O. Blaes, R. Blandford, P. Madau, & S. Koonin.* 363, 612, 191-G1 (1990)

MADAU, PIERO. Thick Accretion Disks around Black Holes and the UV/Soft X-Ray Excess in Quasars. *Piero Madau.* 327, 116, 48-C4 (1988)

MADDALENA, RONALD J. The Large System of Molecular Clouds in Orion and Monoceros. *Ronald J. Maddalena, Mark Morris, J. Moscowitz, & P. Thaddeus.* 303, 375, 45-B9 (1986)

An Expanding System of Molecular Clouds Surrounding λ Orionis. *Ronald J. Maddalena & Mark Morris.* 323, 179, 155-A10 (1987)

MADDEN, S. C. The C_3H_2 2_{20}–2_{11} Transition: Absorption in Cold Dark Clouds. *H. E. Matthews, S. C. Madden, L. W. Avery, & W. M. Irvine.* 307, L69, 107-D6 (1986)

Observations of OCS and a Search for OC_3S in the Interstellar Medium. *H. E. Matthews, J. M. MacLeod, N. W. Broten, S. C. Madden, & P. Friberg.* 315, 646, 47-F7 (1987)

A Study of C_3HD in Cold Interstellar Clouds. *M. B. Bell, L. W. Avery, H. E. Matthews, P. A. Feldman, J. K. G. Watson, S. C. Madden, & W. M. Irvine.* 326, 924, 43-F2 (1988)

Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

MADDEN, SUZANNE C. New Interstellar Masers in Nonmetastable Ammonia. *Suzanne C. Madden, William M. Irvine, Henry E. Matthews, Ronald D. Brown, & Peter D. Godfrey.* 300, L79, 13-F2 (1986)

Detection of ^{13}C-substituted C_3H_2 in Astronomical Sources. *Suzanne C. Madden, William M. Irvine, & Henry E. Matthews.* 311, L27, 152-C8 (1986)

MADEJ, J. Anisotropic Radiation Fields Produced by Scattering in Thick Accretion Disks. *J. Madej, C. Loken, & R. N. Henriksen.* 312, 652, 10-A13 (1987)

The Impact of the Pressure Shift of Hydrogen Lines on "Relativistic" Masses of White Dwarfs. *B. Grabowski, J. Madej, & J. Halenka.* 313, 750, 25-A8 (1987)

MADEJ, JERZY. Effects of Compton Scattering in X-Ray Spectra. *Jerzy Madej.* 339, 386, 54-G5 (1989)

MADEJSKI, G. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

MADEJSKI, GREG M. Studies of BL Lacertae Objects with the *Einstein Observatory*: The Soft X-Ray Spectra of OJ 287 and PKS 0735+178. *Greg M. Madejski & Daniel A. Schwartz.* 330, 776, 101-B1 (1988)

MADORE, B. F. The Luminosity Function and Space Density of the Most Luminous Galaxies in the *IRAS* Survey. *B. T. Soifer, D. B.*

Sanders, G. Neugebauer, G. E. Danielson, Carol J. Lonsdale, B. F. Madore, & S. E. Persson. 303, L41, 53-C5 (1986)

The *IRAS* Bright Galaxy Sample. II. The Sample and Luminosity Function. *B. T. Soifer, D. B. Sanders, B. F. Madore, G. Neugebauer, G. E. Danielson, J. H. Elias, Carol J. Lonsdale, & W. L. Rice.* 320, 238, 110-F7 (1987)

Ultraluminous Infrared Galaxies and the Origin of Quasars. *D. B. Sanders, B. T. Soifer, J. H. Elias, B. F. Madore, K. Matthews, G. Neugebauer, & N. Z. Scoville.* 325, 74, 19-G6 (1988)

MADORE, BARRY F. Ultraviolet Survey for Hot Companions among Nonvariable Yellow Supergiants. *A. Arellano Ferro & Barry F. Madore.* 302, 767, 39-B1 (1986)

The Distance to M31 from Infrared Photometry of Its Cepheids. *Douglas L. Welch, Christopher W. McAlary, Robert A. McLaren, & Barry F. Madore.* 305, 583, 75-C1 (1986)

Photometric Studies of Magellanic Cloud Supergiants. I. Mean Magnitudes and Reddenings. *G. R. Grieve & Barry F. Madore.* 62, 427, 37-A5 (1986)

Photometric Studies of Magellanic Cloud Supergiants. II. Variability. *G. R. Grieve & Barry F. Madore.* 62, 451, 37-C1 (1986)

Near-Infrared Observations of Cepheids: The Distance to NGC 300. *Barry F. Madore, Douglas L. Welch, C. W. McAlary, & R. A. McLaren.* 320, 26, 108-C4 (1987)

Distance Moduli and Structure of the Magellanic Clouds from Near-Infrared Photometry of Classical Cepheids. *Douglas L. Welch, Robert A. McLaren, Barry F. Madore, & Christopher W. McAlary.* 321, 162, 124-A7 (1987)

The Luminosity-Velocity Diagram: A New Distance Estimator for Spiral Galaxies? *Barry F. Madore & David Woods.* 323, L25, 158-B13 (1987)

Photometric Studies of Magellanic Cloud Supergiants. II. Variability: Addendum. *G. R. Grieve & Barry F. Madore.* 67, 503, 19-B9 (1988) (Orig. paper in 62, 451, 37-C1 (1986))

Distances to the Galaxies M81 and NGC 2403 from CCD *I* Band Photometry of Cepheids. *Wendy L. Freedman & Barry F. Madore.* 332, L63, 137-C4 (1988)

Observations of Individual Star-forming Regions in the Nucleus of M33. *Christine D. Wilson, Nick Scoville, Wendy L. Freedman, Barry F. Madore, & D. B. Sanders.* 333, 611, 146-F8 (1988)

Photographic, Near-Infrared, and CCD Photometry of the Distant Globular Cluster AM-1. *Barry F. Madore & Wendy L. Freedman.* 340, 812, 78-E1 (1989)

Luminosity-Velocity Diagrams for Virgo Cluster Spirals. I. Inner Rotation Curves. *David Woods, Barry F. Madore, & Gregory G. Fahlman.* 353, 90, 63-C1 (1990)

Cepheids in Magellanic Cloud Star Clusters: Fundamental and Overtone Pulsators in NGC 2157. *Mario Mateo, Edward W. Olszewski, & Barry F. Madore.* 353, L11, 67-B8 (1990)

An Empirical Test for the Metallicity Sensitivity of the Cepheid Period-Luminosity Relation. *Wendy L. Freedman & Barry F. Madore.* 365, 186, 208-E1 (1990)

MADSEN, JES. On the Applicability of the Statistical Mechanical Theories of Violent Relaxation. *Jes Madsen.* 316, 497, 57-D9 (1987)

MAEJIMA, Y. Simultaneous X-Ray and Optical Observations of GX 339−4 in an X-Ray High State. *K. Makishima, Y. Maejima, K. Mitsuda, H. V. Bradt, R. A. Remillard, I. R. Tuohy, R. Hoshi, & M. Nakagawa.* 308, 635, 116-A1 (1986)

MAGAIN, P. High-Resolution Spectroscopy of the C_2 Swan 0–0 Band from Comet P/Halley. *D. L. Lambert, Y. Sheffer, A. C. Danks, C. Arpigny, & P. Magain.* 353, 640, 71-G6 (1990)

New Observations and Gravitational Lens Models of the Cloverleaf Quasar H1413+117. *R. Kayser, J. Surdej, J. J. Condon, K. I. Kellermann, P. Magain, M. Remy, & A. Smette.* 364, 15, 194-C1 (1990)

MAGALHÃES, A. M. A Rotating, Expanding Disk in the Wolf-Rayet Star EZ Canis Majoris? *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. A. Nook, A. M. Magalhães, M. Taylor, K. S. Bjorkman, & C. M. Anderson.* 365, L19, 212-C1 (1990)

MAGAZZÙ, ANTONIO. Lanthanide Abundances in Three Cool CP Stars. *Antonio Magazzù & Charles R. Cowley.* 308, 254, 110-G5 (1986)

MAGEE, K. Hα Scans of the Intergalactic H I Cloud in Leo. *R. J. Reynolds, K. Magee, F. L. Roesler, F. Scherb, & J. Harlander.* 309, L9, 125-D2 (1986)

MAGGIO, A. Variability Analysis in Low Count Rate Sources. *A. Collura, A. Maggio, S. Sciortino, S. Serio, G. S. Vaiana, & R. Rosner.* 315, 340, 43-E11 (1987)

Einstein Observatory Survey of X-Ray Emission from Solar-Type Stars: The Late F and G Dwarf Stars. *A. Maggio, S. Sciortino, G. S. Vaiana, P. Majer, J. Bookbinder, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 315, 687, 48-B8 (1987)

Einstein Observatory Magnitude-limited X-Ray Survey of Late-Type Giant and Supergiant Stars. *A. Maggio, G. S. Vaiana, B. M. Haisch, R. A. Stern, J. Bookbinder, F. R. Harnden, Jr., & R. Rosner.* 348, 253, 4-B3 (1990)

IUE and *Einstein* Survey of Late-Type Giant and Supergiant Stars and the Dividing Line. *Bernhard M. Haisch, Jay A. Bookbinder, A. Maggio, G. S. Vaiana, & Jeffrey O. Bennett.* 361, 570, 165-B8 (1990)

MAGGIOLI, P. Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)

Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

MAGNANI, L. A Molecular Cloud in the Local, Hot Interstellar Medium. *L. M. Hobbs, L. Blitz, & L. Magnani.* 306, L109, 94-C1 (1986)

On the Nearest Molecular Clouds. II. MBM 12 and 16. *L. M. Hobbs, L. Blitz, B. E. Penprase, L. Magnani, & D. E. Welty.* 327, 356, 50-G10 (1988)

MAGNANI, LORIS. High-Latitude Molecular Clouds: Completeness of the Local Sample and Implications for Molecular Surveys. *Loris Magnani, Elizabeth A. Lada, & Leo Blitz.* 301, 395, 18-B9 (1986)

CO^+ Fluorescence in Comets. *Loris Magnani & Michael F. A'Hearn.* 302, 477, 33-D9 (1986)

Infrared Cirrus and High-Latitude Molecular Clouds. *Janet L. Weiland, Leo Blitz, Eli Dwek, M. G. Hauser, Loris Magnani, & Lee J Rickard.* 306, L101, 94-B6 (1986)

Molecular Abundances in the High-Latitude Molecular Clouds. *Loris Magnani, Leo Blitz, & Jan G. A. Wouterloot.* 326, 909, 43-E1 (1988)

Detection of Shock-enhanced CH Emission in Bipolar Outflows. *Göran Sandell, Loris Magnani, & Elizabeth Lada.* 329, 920, 87-B10 (1988)

Broad-Wing Molecular Lines without Internal Energy Sources. *Leo Blitz, Loris Magnani, & Amri Wandel.* 331, L127, 122-A4 (1988)

CH Observations of Diffuse Molecular Clouds. *Loris Magnani, Elizabeth A. Lada, Göran Sandell, & Leo Blitz.* 339, 244, 53-A4 (1989)

A Search for T Tauri Stars in High-Latitude Molecular Clouds. I. *IRAS* Sources and CCD Imaging. *Loris Magnani, Jean-Pierre Caillault, & Lee Armus.* 357, 602, 120-B1 (1990)

Structure in Small Molecular Clouds: Pedestals and Clumping. *Loris Magnani, John M. Carpenter, Leo Blitz, Namir E. Kassim, & Biman B. Nath.* 73, 747, 28-D3 (1990)

Hydroxyl Emission in Translucent Molecular Clouds. *Loris Magnani & Lisa Siskind.* 359, 355, 140-D8 (1990)

MAGRI, CHRISTOPHER. The Pattern of Gas Deficiency in Cluster Spirals: The Correlation of H I and X-Ray Properties. *Christopher Magri, Martha P. Haynes, William Forman, Christine Jones, & Riccardo Giovanelli.* 333, 136, 139-D7 (1988)

Northern Dwarf and Low Surface Brightness Galaxies. I. The Arecibo Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Christopher Magri, & James E. Wadiak.* 72, 245, 5-D1 (1990)

MAGRIS C., GLADIS. A Model for the Effects of Dust on the Spectra of Disk Galaxies. I. General Treatment. *Gustavo Bruzual A., Gladis Magris C., & Nuria Calvet.* 333, 673, 147-E1 (1988)

MAGUIRE, C. M. Period Derivatives and Improved Parameters for 66 Pulsars. *R. J. Dewey, J. H. Taylor, C. M. Maguire, & G. H. Stokes.* 332, 762, 132-G1 (1988)

MAGUN, A. Energetics and Dynamics of Simple Impulsive Solar Flares. *R. Starr, W. A. Heindl, C. J. Crannell, R. J. Thomas, D. A. Batchelor, & A. Magun.* 329, 967, 87-F3 (1988)

Dynamic Evolution of the Source Volumes of Gradual and Impulsive Solar Flare Emissions. *M. E. Bruner, C. J. Crannell, F. Goetz, A. Magun, & D. L. McKenzie.* 334, 494, 160-C6 (1988)

MAGURA, J. Search for Doppler-shifted Gamma-Ray Emission from SS 433 Using the *SMM* Spectrometer. *B. J. Geldzahler, G. H. Share, R. L. Kinzer, J. Magura, E. L. Chupp, & E. Rieger.* 342, 1123, 116-A5 (1989)

MAHER, M. J. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

MAHESWARAN, MURUGESAPILLAI. On the Surface Magnetic Fields of Rapidly Rotating Stars with Winds. *Murugesapillai Maheswaran & Joseph P. Cassinelli.* 335, 931, 183-A1 (1988)

MAHONEY, J. The MIT–Green Bank (MG) 5 GHz Survey. *C. L. Bennett, C. R. Lawrence, B. F. Burke, J. N. Hewitt, & J. Mahoney.* 61, 1, 16-A6 (1986)

MAHONEY, J. H. The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

MAHONEY, M. J. VLA Observations of the Fast Pulsar Candidate in M28. *W. C. Erickson, M. J. Mahoney, R. H. Becker, & D. J. Helfand.* 314, L45, 39-B9 (1987)

Radio and Optical Observations of Optically Weak, Steep-Spectrum, Compact Radio Sources. *W. D. Cotton, F. N. Owen, & M. J. Mahoney.* 338, 37, 33-D8 (1989)

Low-Frequency Radio Continuum Evidence for Cool Ionized Gas in Normal Spiral Galaxies. *F. P. Israel & M. J. Mahoney.* 352, 30, 50-D11 (1990)

MAHONEY, W. A. Gamma-Ray Burst Localization by *HEAO 3*. *R. A. Schwartz, J. C. Ling, W. A. Mahoney, & A. S. Jacobson.* 317, 846, 75-C7 (1987)

Long-Term Gamma-Ray Spectral Variability of Cygnus X-1. *J. C. Ling, W. A. Mahoney, Wm. A. Wheaton, & A. S. Jacobson.* 321, L117, 137-B8 (1987)

Gamma-Ray Observations of ^{56}Co in SN 1987A. *W. A. Mahoney, L. S. Varnell, A. S. Jacobson, J. C. Ling, R. G. Radocinski, & Wm. A. Wheaton.* 334, L81, 169-D5 (1988)

MAHONEY, WILLIAM A. The Gamma-Ray Spectrum of the Galactic Center Region: Erratum. *Guenter R. Riegler, James C. Ling, William A. Mahoney, Wm. A. Wheaton, & Allan S. Jacobson.* 305, L33, 74-C6 (1986) (Orig. paper in 294, L13, 71-E12 (1985))

MAHRA, H. S. Star Formation Efficiency in Clouds of Various Masses. *A. K. Pandey, D. C. Paliwal, & H. S. Mahra.* 362, 165, 171-B7 (1990)

MAIA, M. A. G. A Catalog of Southern Groups of Galaxies. *M. A. G. Maia, L. N. da Costa, & David W. Latham.* 69, 809, 13-F1 (1989)

Correlation Properties of Loose Groups. *M. A. G. Maia & L. Nicolaci da Costa.* 349, 477, 21-B8 (1990)

On the Properties of Galaxies in Groups. *M. A. G. Maia & L. Nicolaci da Costa.* 352, 457, 56-G1 (1990)

MAIER, EUGENE. A Hillock and Cloud Model for Faculae. *Kenneth H. Schatten, Hans G. Mayr, Kazem Omidvar, & Eugene Maier.* 311, 460, 151-A13 (1986)

MAIHARA, T. Infrared Spectroscopic Study of NGC 2024. *T. Maihara, K. Mizutani, & H. Suto.* 354, 549, 83-B9 (1990)

MAIHARA, TOSHINORI. A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)

3.3 Micron Emission Feature in Galaxies. *Kohei Mizutani, Hiroshi Suto, & Toshinori Maihara.* 346, 675, 175-G1 (1989)

MAILE, T. Radiative Transfer in Fast-moving Media: The Limit of the Diffusion Approximation. *A. Rebetzky, H. Herold, U. Kraus, T. Maile, H. Ruder, & K. Wolf.* 344, L33, 140-C13 (1989)

MAILLARD, J.-P. Search for HeH^+ in NGC 7027. *J. M. Moorhead, R. P. Lowe, J.-P. Maillard, W. H. Wehlau, & P. F. Bernath.* 326, 899, 43-D3 (1988)

Detection of Arsine in Saturn. *B. Bézard, P. Drossart, E. Lellouch, G. Tarrago, & J.-P. Maillard.* 346, 509, 172-D11 (1989)

Two Micron Spectroscopy of the Blue Compact Dwarf Galaxy Haro 2. *T. J. Davidge & J.-P. Maillard.* 351, 432, 45-D8 (1990)

Monodeuterated Methane in the Outer Solar System. IV. Its Detection and Abundance on Neptune. *C. de Bergh, B. L. Lutz, T. Owen, & J.-P. Maillard.* 355, 661, 96-G1 (1990)

H_3^+ Fundamental Band in Jupiter's Auroral Zones at High Resolution from 2400 to 2900 Inverse Centimeters. *J.-P. Maillard, P. Drossart, J. K. G. Watson, S. J. Kim, & J. Caldwell.* 363, L37, 193-F1 (1990)

MAILLARD, JEAN-PIERRE. Observational Evidence of Line Shifts Induced by the Convective Overshoot in the Atmosphere of Red Giants. *Daniel Nadeau & Jean-Pierre Maillard.* 327, 321, 50-E1 (1988)

The Detection of High-Velocity Outflows from M8E-IR. *George F. Mitchell, Mark Allen, Reinhard Beer, Richard Dekany, Wesley Huntress, & Jean-Pierre Maillard.* 327, L17, 53-B6 (1988)

The Ratio of Solid to Gas Phase CO in the Line of Sight to W33A. *George F. Mitchell, Mark Allen, & Jean-Pierre Maillard.* 333, L55, 152-C10 (1988)

The Gas Environment of the Young Stellar Object GL 2591 Studied by Infrared Spectroscopy. *George F. Mitchell, Charles Curry, Jean-Pierre Maillard, & Mark Allen.* 341, 1020, 97-G1 (1989)

Hot and Cold Gas toward Young Stellar Objects. *George F. Mitchell, Jean-Pierre Maillard, Mark Allen, Reinhard Beer, & Kenneth Belcourt.* 363, 554, 191-A9 (1990)

MAIZELS, C. The Bipolar Outflow from the Rotating Carbon Star, V Hydrae. *C. Kahane, C. Maizels, & M. Jura.* 328, L25, 66-F1 (1988)

MAJER, P. X-Ray Spectra and the Rotation-Activity Connection of RS Canum Venaticorum Binaries. *P. Majer, J. H. M. M. Schmitt, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 300, 360, 5-A5 (1986)

Einstein Observatory Survey of X-Ray Emission from Solar-Type Stars: The Late F and G Dwarf Stars. *A. Maggio, S. Sciortino, G. S. Vaiana, P. Majer, J. Bookbinder, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 315, 687, 48-B8 (1987)

MAJEWSKI, S. A Subdued Interpretation of the Visual and Infrared Emission from Merging Galaxies: Application to NGC 6240. *Harley A. Thronson, Jr., S. Majewski, Lara Descartes, & Mark Hereld.* 364, 456, 201-F5 (1990)

MAJEWSKI, S. R. A Redshift Limit for the Faint Blue Galaxy Population from Deep *U* Band Imaging. *P. Guhathakurta, J. A. Tyson, & S. R. Majewski.* 357, L9, 115-B11 (1990)

Spartan 1 X-Ray Observations of the Perseus Cluster. II. The Distribution of Flux and Hardness Ratio Out to a Radius of 50 Arcminutes. *W. A. Snyder, M. P. Kowalski, R. G. Cruddace, G. G. Fritz, J. Middleditch, E. E. Fenimore, M. P. Ulmer, & S. R. Majewski.* 365, 460, 213-F8 (1990)

MAJEWSKI, STEVEN. Near-Infrared Images of NGC 1068: Bar-driven Star Formation and the Circumnuclear Composition. *Harley A. Thronson, Jr., Mark Hereld, Steven Majewski, Matthew Greenhouse, Paul Johnson, Earl Spillar, C. E. Woodward, D. A. Harper, & Bernard J. Rauscher.* 343, 158, 120-B3 (1989)

MAJEWSKI, W. A. Laboratory Observation of the $2\nu_2$ Band of the H_3^+ Molecular Ion. *W. A. Majewski, P. A. Feldman, & J. K. G. Watson.* 347, L51, 189-F5 (1989)

MAJUMDAR, BHABANI. Dependence of Pulsar Characteristics on the Spacetime Metric. *V. B. Bhatia, Namrata Chopra, Bhabani Majumdar, & N. Panchapakesan.* 326, 63, 32-F2 (1988)

MAKGAMATHE, S. Spectra of Relativistic Solar Proton Ground-Level Events Recorded at Sanae, Antarctica. *P. H. Stoker & S. Makgamathe.* 73, 263, 21-C9 (1990)

MAKINO, F. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

MAKINO, FUMIYOSHI. *Ginga* Observations of the 50 Millisecond Pulsar PSR 0540–69. *Fumiaki Nagase, John Deeter, Wayne Lewis, Tadayasu Dotani, Fumiyoshi Makino, & Kazuhisa Mitsuda.* 351, L13, 43-C1 (1990)

MAKINO, JUNICHIRO. Performance Analysis of Direct *N*-Body Calculations. *Junichiro Makino & Piet Hut.* 68, 833, 36-B1 (1988)

Star Cluster Evolution with Primordial Binaries. I. A Comparative Study. *Steve McMillan, Piet Hut, & Junichiro Makino.* 362, 522, 177-C1 (1990)

Bottlenecks in Simulations of Dense Stellar Systems. *Junichiro Makino & Piet Hut.* 365, 208, 208-F11 (1990)

MAKISHIMA, K. Simultaneous X-Ray and Optical Observations of GX 339–4 in an X-Ray High State. *K. Makishima, Y. Maejima, K. Mitsuda, H. V. Bradt, R. A. Remillard, I. R. Tuohy, R. Hoshi, & M. Nakagawa.* 308, 635, 116-A1 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

Spectra and Pulse Period of the Binary X-Ray Pulsar 4U 1538–52. *K. Makishima, K. Koyama, S. Hayakawa, & F. Nagase.* 314, 619, 36-C10 (1987)

A Scanning Modulation Collimator Observation of the High Energy X-Ray Source in the Crab Nebula. *R. M. Pelling, W. S. Paciesas, L. E. Peterson, K. Makishima, M. Oda, Y. Ogawara, & S. Miyamoto.* 319, 416, 97-F7 (1987)

X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)

Ginga Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)

X-Ray Spectrum of the Spiral Galaxy M51 (NGC 5194). *K. Makishima, T. Ohashi, H. Kondo, G. G. C. Palumbo, & G. Trinchieri.* 365, 159, 208-B3 (1990)

X-Ray Observations of NGC 253 and M83 with *Ginga*. *T. Ohashi, K. Makishima, T. Tsuru, S. Takano, K. Koyama, & G. C. Stewart.* 365, 180, 208-D9 (1990)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

MAKISHIMA, KAZUO. Discovery of a Cyclotron Absorption Line in the Spectrum of the Binary X-Ray Pulsar 4U 1538–52 Observed by *Ginga*. *George W. Clark, Jonathan W. Woo, Fumiaki Nagase, Kazuo Makishima, & Taro Sakao.* 353, 274, 65-E8 (1990)

MALAGOLI, A. On the Thermal Instability of Galactic and Cluster Halos. *A. Malagoli, R. Rosner, & G. Bodo.* 319, 632, 101-G8 (1987)

MALAGOLI, ANDREA. Turbulent Supersonic Convection in Three Dimensions. *Andrea Malagoli, Fausto Cattaneo, & Nicholas H. Brummell.* 361, L33, 161-G1 (1990)

MALANEY, ROBERT A. On the Origin of the Solar System *s*-Process Abundances. *Robert A. Malaney & Arnold I. Boothroyd.* 320, 866, 119-C7 (1987)

The *s*-Process Nucleosynthesis of Barium Stars. *Robert A. Malaney.* 321, 832, 133-E13 (1987)

Neutron Exposures in Time-dependent Stellar Convective Regions. *Robert A. Malaney, Martin J. Savage, & Arnold I. Boothroyd.* 324, 948, 14-A1 (1988)

Late-Time Neutron Diffusion and Nucleosynthesis in a Post–QCD Inhomogeneous $\Omega_b = 1$ Universe. *Robert A. Malaney & William A. Fowler.* 333, 14, 138-B8 (1988)

A Search for Interstellar [Fe X] toward SN 1987A. *Robert A. Malaney & Mark Clampin.* 335, L57, 185-C1 (1988)

Stellar Photonuclear Reactions and the Actinide Cosmochronometers. *Robert A. Malaney, Grant J. Mathews, & David S. P. Dearborn.* 345, 169, 151-B9 (1989)

On Nuclear Reactions and ^{9}Be Production in Inhomogeneous Cosmologies. *Robert A. Malaney & William A. Fowler.* 345, L5, 157-A10 (1989)

Photofission Production of Technetium and Synthetic Asymptotic Giant Branch Evolution. *John C. Lattanzio & Robert A. Malaney.* 347, 989, 195-G3 (1989)

On Interstellar Lithium toward SN 1987A as an Indicator of Primordial Lithium. *Robert A. Malaney & Charles R. Alcock.* 351, 31, 38-D6 (1990)

Solar Antineutrinos. *Robert A. Malaney, Bradley S. Meyer, & Malcolm N. Butler.* 352, 767, 60-E9 (1990)

MALARODA, STELLA. Stellar Multiplicity in the Scorpius-Centaurus Association Tabulated Optical Properties of Graphite and Silicate Grains: Erratum. *Hugo Levato, Stella Malaroda, Nidia Morrell, Gladys Solivella, & B. T. Draine.* 64, 487, 23-B8 (1987)

Spectroscopic Binary Frequency among CNO Stars. *Hugo Levato, Nidia Morrell, Beatriz García, & Stella Malaroda.* 68, 319, 27-G1 (1988)

Spectroscopic Binaries in the Open Cluster Collinder 228. *Hugo Levato, Stella Malaroda, Beatriz García, Nidia Morrell, & Gladys Solivella.* 72, 323, 6-E1 (1990)

MALEK, LADAN. *IRAS* Observations of Galaxies in the Virgo Cluster Area. *George Helou, Iffat R. Khan, Ladan Malek, & Lisa Boehmer.* 68, 151, 25-C1 (1988)

MALET, I. Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)

MALEY, PAUL D. Specular Satellite Reflection and the 1985 March 19 Optical Outburst in Perseus. *Paul D. Maley.* 317, L39, 71-C11 (1987)

The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)

MALHERBE, J. M. A Shock Condensation Mechanism for Loop Prominences. *T. G. Forbes & J. M. Malherbe.* 302, L67, 40-F2 (1986)

Evidence for Gentle Chromospheric Evaporation during the Gradual Phase of Large Solar Flares. *B. Schmieder, T. G. Forbes, J. M. Malherbe, & M. E. Machado.* 317, 956, 76-E8 (1987)

Evaporation in the Transition Region during the Gradual Phase of Flares. *B. Schmieder, J. M. Malherbe, G. M. Simnett, T. G. Forbes, & E. Tandberg-Hanssen.* 356, 720, 109-B9 (1990)

MALIN, DAVID. Virgo Dwarfs: New Light on Faint Galaxies. *Chris Impey, Greg Bothun, & David Malin.* 330, 634, 99-D6 (1988)

An Optical Counterpart to the H I Cloud in the Local Supercluster. *Chris Impey, Gregory Bothun, David Malin, & Lister Staveley-Smith.* 351, L33, 49-C1 (1990)

MALIN, DAVID F. The Extended Red Emission Filaments in NGC 2023. *Adolf N. Witt & David F. Malin.* 347, L25, 189-D1 (1989)

MALKAN, M. A. Spectral Energy Distributions of Active Galactic Nuclei between 0.1 and 100 Microns. *R. A. Edelson & M. A. Malkan.* 308, 59, 108-F4 (1986)

Broad-Band Properties of the CfA Seyfert Galaxies. II. Infrared to Millimeter Properties. *R. A. Edelson, M. A. Malkan, & G. H. Rieke.* 321, 233, 124-G1 (1987)

Far-Infrared Variability in Active Galactic Nuclei. *R. A. Edelson & M. A. Malkan.* 323, 516, 160-B14 (1987)

A New Narrow-Line Seyfert 1 Galaxy: IRAS 1652+395. *L. Bassani, M. J. Coe, M. A. Malkan, N. Mandolesi, B. Partridge, & L. Spinoglio.* 344, 726, 143-D2 (1989)

The Miniblazar in 3C 273. *C. D. Impey, M. A. Malkan, & S. Tapia.* 347, 96, 183-C9 (1989)

Emission-Line Variations and Broad-Line Region Kinematics of NGC 5548. *Edward I. Rosenblatt & M. A. Malkan.* 350, 132, 26-F1 (1990)

MALKAN, MATTHEW A. The Ultraviolet Excess of Quasars. III. The Highly Polarized Quasars PKS 0736+017 and PKS 1510−089. *Matthew A. Malkan & Richard L. Moore.* 300, 216, 3-D3 (1986)

C IV Absorption Systems in QSO Spectra: Is the Character of Systems with $z_{abs} \cong z_{em}$ Different from Those with $z_{abs} \ll z_{em}$? *Craig B. Foltz, Ray J. Weymann, Bradley M. Peterson, Light Sun, Matthew A. Malkan, & Frederic H. Chaffee, Jr.* 307, 504, 102-C1 (1986)

Near-Ultraviolet Spectroscopy of Seyfert Nuclei: Reddening and Bowen Fluorescence. *Matthew A. Malkan.* 310, 679, 141-D1 (1986)

The Intergrated Ultraviolet Radiation Field from QSOs. *Jill Bechtold, Ray J. Weymann, Zuo Lin, & Matthew A. Malkan.* 315, 180, 42-A4 (1987)

PG 1411+442: The Nearest Broad Absorption Line Quasar. *Matthew A. Malkan, Richard F. Green, & John B. Hutchings.* 322, 729, 147-G6 (1987)

The 12 Micron Galaxy Sample. I. Luminosity Functions and a New Complete Active Galaxy Sample. *Luigi Spinoglio & Matthew A. Malkan.* 342, 83, 102-A10 (1989)

Synthesis of Accretion Disk and Nonthermal Source Models for Active Galactic Nuclei. *David L. Band & Matthew A. Malkan.* 345, 122, 150-E3 (1989)

Fitting Improved Accretion Disk Models to the Multiwavelength Continua of Quasars and Active Galactic Nuclei. *Wei-Hsin Sun & Matthew A. Malkan.* 346, 68, 166-G12 (1989)

MALLAMAS, ANTHONY D. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

MALMUTH, ELIOT M. Dynamics of the Poor Clusters MKW 4 and AWM 4. *Eliot M. Malmuth & Gerard A. Kriss.* 308, 10, 108-B1 (1986)

MALONEY, PHIL. Are Molecular Clouds in Virial Equilibrium? *Phil Maloney.* 348, L9, 6-B1 (1990)

MALONEY, PHILIP. Observations of 1.3 Millimeter Emission from the Centers of Galaxies. *Harley A. Thronson, Jr., Christopher K. Walker, Constance E. Walker, & Philip Maloney.* 318, 645, 88-A4 (1987)

$I_{CO}/N(H_2)$ Conversions and Molecular Gas Abundances in Spiral and Irregular Galaxies. *Philip Maloney & John H. Black.* 325, 389, 23-D10 (1988)

The Turbulent Interstellar Medium and Pressure-bounded Molecular Clouds. *Philip Maloney.* 334, 761, 164-G6 (1988)

Spatially Resolved Near-Infrared Spectroscopy of NGC 6240. *Richard Elston & Philip Maloney.* 357, 91, 112-B11 (1990)

MALONEY, PHILIP R. Spectroscopic Evidence for Infall around an Extraordinary IRAS Source in Ophiuchus. *Christopher K. Walker, Charles J. Lada, Erick T. Young, Philip R. Maloney, & Bruce A. Wilking.* 309, L47, 125-F9 (1986)

MALTBY, P. A New Sunspot Umbral Model and Its Variation with the Solar Cycle. *P. Maltby, E. H. Avrett, M. Carlsson, O. Kjeldseth-Moe, R. L. Kurucz, & R. Loeser.* 306, 284, 84-D9 (1986)

Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)

MAMON, G. A. Photochemistry and Molecular Ions in Oxygen-rich Circumstellar Envelopes. *G. A. Mamon, A. E. Glassgold, & A. Omont.* 323, 306, 156-D3 (1987)

The Photodissociation of CO in Circumstellar Envelopes. *G. A. Mamon, A. E. Glassgold, & P. J. Huggins.* 328, 797, 71-G3 (1988)

Molecule Formation in Fast Neutral Winds from Protostars. *A. E. Glassgold, G. A. Mamon, & P. J. Huggins.* 336, L29, 8-E1 (1989)

MAMON, GARY A. Are Compact Groups of Galaxies Physically Dense? *Gary A. Mamon.* 307, 426, 101-C12 (1986)

The Dynamics of Small Groups of Galaxies. I. Virialized Groups. *Gary A. Mamon.* 321, 622, 131-D2 (1987)

MANAGAN, ROBERT A. Nonaxisymmetric Normal Modes and Secular Instabilities of Rotating Stars. *Robert A. Managan.* 309, 598, 127-F11 (1986)

MANCHESTER, R. N. A Braking Index for PSR 0540−69. *R. N. Manchester & B. A. Peterson.* 342, L23, 109-C1 (1989)

The Proper Motion of the Vela Pulsar. *M. Bailes, R. N. Manchester, M. J. Kesteven, R. P. Norris, & J. E. Reynolds.* 343, L53, 132-C5 (1989)

MANDOLESI, N. Measurements of the Cosmic Background Radiation Temperature at 6.3 Centimeters. *N. Mandolesi, P. Calzolari, S. Cortiglioni, G. Morigi, L. Danese, & G. De Zotti.* 310, 561, 140-A1 (1986)

Preliminary VLA Limits on the Sunyaev-Zel'dovich Effect in Abell 2218. *R. B. Partridge, R. A. Perley, N. Mandolesi, & F. Delpino.* 317, 112, 65-B11 (1987)

A New Narrow-Line Seyfert 1 Galaxy: IRAS 1652+395. *L. Bassani, M. J. Coe, M. A. Malkan, N. Mandolesi, B. Partridge, & L. Spinoglio.* 344, 726, 143-D2 (1989)

A Precise Measurement of the Cosmic Background Radiation at 1.32 Millimeters. *E. Palazzi, N. Mandolesi, Philippe Crane, Marc L. Kutner, J. C. Blades, & Dennis J. Hegyi.* 357, 14, 111-C3 (1990)

MANDOLESI, NAZZARENO. Cosmic Background Radiation Temperature from CN Absorption. *Philippe Crane, Dennis J. Hegyi, Nazzareno Mandolesi, & Anthony C. Danks.* 309, 822, 130-C8 (1986)

Interstellar CH toward ζ Ophiuchi. *Eliana Palazzi, Nazzareno Mandolesi, & Philippe Crane.* 326, 905, 43-D9 (1988)

Cosmic Background Radiation Temperature at 2.64 Millimeters. *Philippe Crane, Dennis J. Hegyi, Marc L. Kutner, & Nazzareno Mandolesi.* 346, 136, 167-F11 (1989)

MANDROU, P. A Study of $E > 4$ MeV Gamma Radiation from the Galactic Disk in the Region $-20° < l < 20°$. *J. M. Lavigne, P. Mandrou, M. Niel, B. Agrinier, E. Bonfand, & B. Parlier.* 308, 370, 112-A14 (1986)

Observation of the Vela Pulsar, PSR 0833−45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati,*

B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi. 356, L21, 103-D1 (1990)

MANDY, MARGOT E. The Rate of Dissociation of Molecular Hydrogen by Hydrogen Atoms at Very Low Densities. *John E. Dove & Margot E. Mandy.* 311, L93, 160-F6 (1986)

MANDZHAVIDZE, N. Z. Neutrons and Gamma-Ray Emission on 1982 June 3: The Possibility of Fitting the Data on the Assumption of One Population of Accelerated Particles. *V. G. Guglenko, Yu. E. Efimov, G. E. Kocharov, G. A. Kovaltsov, N. Z. Mandzhavidze, M. M. Terekhov, & L. G. Kocharov.* 73, 209, 20-E9 (1990)

MANGUM, JEFFREY G. Observations of the ^{13}C Isomers of Cyanoacetylene: Implications for Carbon Isotope Studies in the Milky Way. *Jeffrey G. Mangum, Robert T. Rood, E. James Wadiak, & T. L. Wilson.* 334, 182, 156-C9 (1988)

Observations of the Formaldehyde Emission in Orion-KL: Abundances, Distribution, and Kinematics of the Dense Gas in the Orion Molecular Ridge. *Jeffrey G. Mangum, Alwyn Wootten, Robert B. Loren, & E. James Wadiak.* 348, 542, 9-D3 (1990)

MANIAK, STEVEN. Hα Spectroscopy of Active Chromosphere Stars. I. Six G–K Giants. *Bernard W. Bopp, Robert C. Dempsey, & Steven Maniak.* 68, 803, 35-F1 (1988)

MANN, A. K. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

MANNHEIM, PHILIP D. Self-consistent Solution for a Scalar Field Coupled Conformally to a Robertson-Walker Geometry. *Yaobing Deng & Philip D. Mannheim.* 324, 1, 1-A7 (1988)

Exact Vacuum Solution to Conformal Weyl Gravity and Galactic Rotation Curves. *Philip D. Mannheim & Demosthenes Kazanas.* 342, 635, 110-D9 (1989)

MANNINGS, V. G. SN 1987A: Limits to 400 GeV Gamma-Ray Emission. *P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, S. M. Rayner, K. J. Orford, K. E. Turver, & D. G. Williams.* 333, L19, 144-B11 (1988)

300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)

New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989))

MANSON, STEVEN T. Photoabsorption Cross Sections for Positive Ions with $Z \leq 30$: Erratum. *Robert F. Reilman & Steven T. Manson.* 62, 939, 44-C8 (1986) (Orig. paper in 40, 815, 24-D1 (1979))

MANSPERGER, CATHY S. Spectroscopy of the Dwarf Nova RX Andromedae from Quiescence to Eruption. *Ronald H. Kaitchuck, Cathy S. Mansperger, & Panayiotis A. Hantzios.* 330, 305, 93-D11 (1988)

Spectroscopy of the Dwarf Nova TW Virginis Caught on the Rise to Outburst. *Cathy S. Mansperger & Ronald H. Kaitchuck.* 358, 268, 125-D9 (1990)

MANZO, G. Time Variability of Gamma Cassiopeiae in X-Rays. *F. Frontera, D. Dal Fiume, N. R. Robba, G. Manzo, S. Re, & E. Costa.* 320, L127, 121-D13 (1987)

MAO, X. Molecular Envelope of the Planetary Nebula NGC 7027. *S. Deguchi, H. Izumiura, N. Kaifu, X. Mao, Nguyen-Q-Rieu, & N. Ukita.* 351, 522, 46-E9 (1990)

MAOZ, D. High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. I. Markarian 279. *D. Maoz, H. Netzer, E. Leibowitz, N. Brosch, A. Laor, H. Mendelson, S. Beck, E. Almoznino, & T. Mazeh.* 351, 75, 39-A5 (1990)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. II. NGC 5548. *H. Netzer, D. Maoz, A. Laor, H. Mendelson, N. Brosch, E. Leibowitz, E. Almoznino, S. Beck, & T. Mazeh.* 353, 108, 63-D7 (1990)

Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)

MAOZ, DAN. On the Emission-Line Response to Continuum Variations in the Seyfert Galaxy NGC 5548. *Hagai Netzer & Dan Maoz.* 365, L5, 212-A11 (1990)

MAOZ, EYAL. On the Prevalence of r^{-3} Density Profiles in Extragalactic Systems. *Eyal Maoz & Jacob D. Bekenstein.* 353, 59, 62-G1 (1990)

When Did Cores of Clusters of Galaxies Form? *Eyal Maoz.* 359, 257, 139-C1 (1990)

MARAN, S. P. A Model of the Pre-Sedov Expansion Phase of Supernova Remnant–Ambient Plasma Coupling and X-Ray Emission from SN 1987A. *D. S. Spicer, R. W. Clark, & S. P. Maran.* 356, 549, 107-B4 (1990)

MARAN, STEPHEN P. Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 320, 159, 109-F12 (1987)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds: Erratum. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 326, 1040, 45-A9 (1988) (Orig. paper in 320, 159, 109-F12 (1987))

An Extremely Carbon-poor Planetary Nebula in the Small Magellanic Cloud. *Stephen J. Meatheringham, Stephen P. Maran, Theodore P. Stecher, Andrew G. Michalitsianos, Theodore R. Gull, Lawrence H. Aller, & Charles D. Keyes.* 361, 101, 158-C5 (1990)

MARAR, T. M. K. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

MARASCHI, L. Variability of the BL Lacertae Objects PKS 2155–304 and OJ 287 in the Far-Ultraviolet. *L. Maraschi, G. Tagliaferri, E. G. Tanzi, & A. Treves.* 304, 637, 63-A9 (1986)

X-Ray Variability of the BL Lacertae Object PKS 2155–304 in the 0.1–6 keV Range. *M. Morini, L. Chiappetti, D. Maccagni, L. Maraschi, D. Molteni, E. G. Tanzi, A. Treves, & A. Wolter.* 306, L71, 93-G5 (1986)

Spectral Properties of Blazars. I. Objects Observed in the Far-Ultraviolet. *G. Ghisellini, L. Maraschi, E. G. Tanzi, & A. Treves.* 310, 317, 135-D12 (1986)

Spectral Properties of Blazars. II. An X-Ray Observed Sample. *L. Maraschi, G. Ghisellini, E. G. Tanzi, & A. Treves.* 310, 325, 135-E7 (1986)

Gamma-Ray Emission from Accretion onto a Rotating Black Hole. *M. Colpi, L. Maraschi, & A. Treves.* 311, 150, 147-F3 (1986)

Multifrequency Observations of the Blazar PKS 0537–441 in a Moderately Active State. *E. G. Tanzi, P. Barr, P. Bouchet, L. Chiappetti, S. Christiani, R. Falomo, P. Giommi, L. Maraschi, & A. Treves.* 311, L13, 152-B7 (1986)

The Redshift of the BL Lacertae Object PKS 2005–489. *R. Falomo, L. Maraschi, E. G. Tanzi, & A. Treves.* 318, L39, 92-B1 (1987)

X-Ray Spectrum and Variability of the Black Hole Candidate LMC X-3. *A. Treves, T. Belloni, L. Chiappetti, L. Maraschi, L. Stella, E. G. Tanzi, & M. van der Klis.* 325, 119, 20-D8 (1988)

The X-Ray to Infrared Energy Distribution of the Quasar PG 0026+129. *A. Treves, P. Bouchet, L. Chiappetti, A. Ciapi, R. Falomo, L. Maraschi, & E. G. Tanzi.* 330, 178, 92-A3 (1988)

Detection of Extragalactic Absorption in the Ultraviolet Spectrum of the BL Lacertae Object PKS 2155–304. *L. Maraschi, J. C. Blades, C. Calanchi, E. G. Tanzi, & A. Treves.* 333, 660, 147-D1 (1988)

Quasi-simultaneous Ultraviolet Optical and Infrared Observations of the BL Lacertae Object PKS 0048–09. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 335, 122, 171-F1 (1988)

The Ultraviolet-Optical-Infrared Energy Distribution of LMC X-3: Observation of an Accretion Disk around a Black Hole. *A. Treves, T. Belloni, P. Bouchet, L. Chiappetti, R. Falomo, L. Maraschi, & E. G. Tanzi.* 335, 142, 172-A1 (1988)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of the BL Lacertae Object PKS 2155–304. *A. Treves, M. Morini, L. Chiappetti, A. Fabian, R. Falomo, D. Maccagni, L. Maraschi, E. G. Tanzi, & G. Tagliaferri.* 341, 733, 94-D5 (1989)

X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215–086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

The Ultraviolet to Infrared Energy Distribution of the BL Lacertae Object PKS 0422+00 at Two Different Brightness Levels. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 345, 148, 150-G9 (1989)

Thermal Comptonization in Standard Accretion Disks. *L. Maraschi & S. Molendi.* 353, 452, 69-E12 (1990)

X-Ray and Ultraviolet Observations of the Seyfert Galaxy MCG 8-11-11. *A. Treves, G. Bonelli, L. Chiappetti, R. Falomo, L. Maraschi, G. Tagliaferri, & E. G. Tanzi.* 359, 98, 135-C7 (1990)

EXOSAT Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)

MARASCHI, LAURA. A New Soft X-Ray Mode in the AM Herculis Object E2003+225. *Julian P. Osborne, Klaus Beuermann, Philip Charles, Laura Maraschi, Koji Mukai, & Aldo Treves.* 315, L123, 49-E5 (1987)

Bulk Acceleration in Relativistic Jets and the Spectral Properties of Blazars. *Gabriele Ghisellini & Laura Maraschi.* 340, 181, 69-C13 (1989)

MARCAIDE, J. M. VLBI Observations of 23 Hot Spots in the Starburst Galaxy M82. *N. Bartel, M. I. Ratner, A. E. E. Rogers, I. I. Shapiro, R. J. Bonometti, N. L. Cohen, M. V. Gorenstein, J. M. Marcaide, & R. A. Preston.* 323, 505, 160-B3 (1987)

VLBI Observations of the Gravitational Lens System 0957+561: Structure and Relative Magnification of the A and B Images. *M. V. Gorenstein, N. L. Cohen, I. I. Shapiro, A. E. E. Rogers, R. J. Bonometti, E. E. Falco, N. Bartel, & J. M. Marcaide.* 334, 42, 154-E1 (1988)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

MARCAIDE, JON. Multiepoch VLBI Observations of 4C 39.25: Superluminal Motion and Stationary Structure. *David B. Shaffer, Alan P. Marscher, Jon Marcaide, & Jonathan D. Romney.* 314, L1, 33-B4 (1987)

MARCANTONIO, K. J. Experimental Study of Erosion of Methane Ice by Energetic Ions and Some Considerations for Astrophysics. *L. J. Lanzerotti, W. L. Brown, & K. J. Marcantonio.* 313, 910, 26-F7 (1987)

MARCELLINO, G. The Absolute Temperature of the Sky and the Temperature of the Cosmic Background Radiation at 600 MHz. *G. Sironi, M. Limon, G. Marcellino, G. Bonelli, M. Bersanelli, G. Conti, & K. Reif.* 357, 301, 116-C11 (1990)

MARCH, R. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

MARCO, ENRIC. On the Proper Motion of the Binary Pulsar PSR 1913+16. *Enric Marco & Miquel Portilla.* 310, 719, 141-G5 (1986)

MARCONI, G. DDO 210: The Actual Appearance of a "Ghost" Irregular Galaxy. *G. Marconi, P. Focardi, L. Greggio, & M. Tosi.* 360, L39, 156-C1 (1990)

MARCONI, M. L. On the Ammonia Abundance in the Coma of Halley's Comet. *M. L. Marconi & D. A. Mendis.* 330, 513, 96-A7 (1988)

On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 343, L77, 132-E5 (1989)

On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 349, L33, 19-D4 (1990) (Orig. paper in 343, L77, 132-E5 (1989))

The Identification of H_3S^+ with the Ion of Mass per Charge (m/q) 35 Observed in the Coma of Comet Halley. *M. L. Marconi, D. A. Mendis, A. Korth, R. P. Lin, D. L. Mitchell, & H. Reme.* 352, L17, 55-C1 (1990)

MARCY, GEOFFREY W. The Pleiades Rapid Rotators: Evidence for an Evolutionary Sequence. *R. Paul Butler, Ross D. Cohen, Douglas K. Duncan, & Geoffrey W. Marcy.* 319, L19, 100-B9 (1987)

Physical Realism in the Analysis of Stellar Magnetic Fields. *Gibor Basri & Geoffrey W. Marcy.* 330, 274, 93-B6 (1988)

The Extremely Low Mass Companion to Gliese 623. *Geoffrey W. Marcy & David Moore.* 341, 961, 97-B1 (1989)

A Search for Substellar Companions to Low-Mass Stars. *Geoffrey W. Marcy & Karsten J. Benitz.* 344, 441, 138-D7 (1989)

Physical Realism in the Analysis of Stellar Magnetic Fields. II. K Dwarfs. *Geoffrey W. Marcy & Gibor Basri.* 345, 480, 155-B1 (1989)

Physical Realism in the Analysis of Stellar Magnetic Fields. III. Flux Tubes and Multicomponent Atmospheres. *Gibor Basri, Geoffrey W. Marcy, & Jeff A. Valenti.* 360, 650, 154-C1 (1990)

MARDIROSSIAN, F. The Luminosity-Diameter Relations of Elliptical Galaxies in Different Environments. *G. Giuricin, F. Mardirossian, M. Mezzetti, & A. Pisani.* 345, 101, 150-C7 (1989)

The Radio Properties of Bright Seyfert Galaxies. *G. Giuricin, F. Mardirossian, M. Mezzetti, & G. Bertotti.* 72, 551, 10-B5 (1990)

The Tully-Fisher Relation in Different Environments. *A. Biviano, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 74, 325, 35-B1 (1990)

MARGOLIS, S. H. Cosmic-Ray Propagation in the Galaxy and in the Heliosphere: The Path Length Distribution at Low Energy. *M. Garcia-Munoz, J. A. Simpson, T. G. Guzik, J. P. Wefel, & S. H. Margolis.* 64, 269, 19-F6 (1987)

MARGOLIS, STEVEN H. The Cosmic-Ray Source Composition. *Steven H. Margolis.* 300, 20, 1-B12 (1986)

Neutrino Emission by the Pair, Plasma, and Photo Processes in the Weinberg-Salam Model. *Paul J. Schinder, David N. Schramm, Paul J. Wiita, Steven H. Margolis, & David L. Tubbs.* 313, 531, 22-E9 (1987)

MARGON, B. The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault.* 317, 355, 67-F14 (1987)

MARGON, BRUCE. Discovery of a New Short-Period, Eclipsing Cataclysmic Variable. *Ronald A. Downes, Mario Mateo, Paula Szkody, David C. Jenner, & Bruce Margon.* 301, 240, 16-E9 (1986)

The X-Ray Properties of High-Redshift Quasi-stellar Objects. *Scott F. Anderson & Bruce Margon.* 314, 111, 29-B14 (1987)

The Low-Luminosity X-Ray Sources in Omega Centauri. *Bruce Margon & Michael Bolte.* 321, L61, 129-F11 (1987)

An Exceptionally Bright, Compact Starburst Nucleus. *Bruce Margon, Scott F. Anderson, Mario Mateo, Michel Fich, & Philip Massey.* 334, 597, 163-A1 (1988)

Infrared-selected "Warm" Galaxies Observed in X-Rays. *Paul J. Green, Martin Ward, Scott F. Anderson, Bruce Margon, M. H. K. DeGrijp, & George K. Miley.* 339, 93, 51-B14 (1989)

Ten Years of SS 433 Kinematics. *Bruce Margon & Scott F. Anderson.* 347, 448, 187-E11 (1989)

MARGULIS, M. ^{12}CO Emission from the Envelopes of Cool Stars in the Solar Neighborhood. *M. Margulis, D. J. Van Blerkom, R. L. Snell, & S. G. Kleinmann.* 361, 673, 166-D10 (1990)

MARGULIS, MICHAEL. Masses and Energetics of High-Velocity Molecular Outflows: Erratum. *Michael Margulis & Charles J. Lada.* 306, 767, 92-G12 (1986) (Orig. paper in 299, 925, 138-A9 (1985))

An Unbiased Survey for High-Velocity Gas in the Monoceros OB1 Molecular Cloud. *Michael Margulis & Charles J. Lada.* 309, L87, 131-E11 (1986)

Observations of Molecular and Atomic Clouds in M31. *Charles J. Lada, Michael Margulis, Yoshiaki Sofue, Naomasa Nakai, & Toshihiro Handa.* 328, 143, 63-E7 (1988)

An Unusual Outflow around IRAS 16293–2422. *Christopher K. Walker, Charles J. Lada, Erick T. Young, & Michael Margulis.* 332, 335, 126-G4 (1988)

Molecular Outflows in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, & Ronald L. Snell.* 333, 316, 141-E4 (1988)

Very High Velocity Emission from Molecular Outflows. *Michael Margulis & Ronald L. Snell.* 343, 779, 129-A1 (1989)

Molecular Gas, the Interstellar Medium, and Star Formation in S0 and Sa Galaxies. *Harley A. Thronson, Jr., Linda Tacconi, Jeffrey Kenney, Matthew A. Greenhouse, Michael Margulis, Lowell Tacconi-Garman, & Judith S. Young.* 344, 747, 143-E10 (1989)

Young Stellar Objects in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, & Erick T. Young.* 345, 906, 161-G2 (1989)

A Study of the Stellar Population in the Lynds 1641 Dark Cloud: Deep Near-Infrared Imaging. *Karen M. Strom, Michael Margulis, & Stephen E. Strom.* 345, L79, 165-B5 (1989)

A Study of the Stellar Population in the Lynds 1641 Dark Cloud: A Possible Dense Cluster Associtated with IRAS 05338–0624. *Karen M. Strom, Michael Margulis, & Stephen E. Strom.* 346, L33, 173-D6 (1989)

A Spectacular Molecular Outflow in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, Tetsuo Hasegawa, Saeko S. Hayashi, Masahiko Hayashi, Norio Kaifu, Ian Gatley, Thomas P. Greene, & Erick T. Young.* 352, 615, 58-F1 (1990)

A Search for Scale-dependent Morphology in Five Molecular Cloud Complexes. *Robert L. Dickman, Mark A. Horvath, & Michael Margulis.* 365, 586, 215-E1 (1990)

MARIOTTI, J.-M. On the Binary Nature of Van Biesbroeck 8. *C. Perrier & J.-M. Mariotti.* 312, L27, 7-B12 (1987)

MARISKA, J. T. Nonlinear Evolution of Radiation-driven Thermally Unstable Fluids. *R. B. Dahlburg, C. R. DeVore, J. M. Picone, J. T. Mariska, & J. T. Karpen.* 315, 385, 44-B5 (1987)

A Numerical Study of the Nonlinear Thermal Stability of Solar Loops. *J. A. Klimchuk, S. K. Antiochos, & J. T. Mariska.* 320, 409, 112-D13 (1987)

Heating-related Flows in Cool Solar Loops. *J. A. Klimchuk & J. T. Mariska.* 328, 334, 65-G1 (1988)

MARISKA, JOHN T. Solar Transition Region and Coronal Response to Heating Rate Perturbations. *John T. Mariska.* 319, 465, 98-C3 (1987)

Observational Signatures of Loop Flows Driven by Asymmetric Heating. *John T. Mariska.* 334, 489, 160-C1 (1988)

Numerical Simulations of Impulsively Heated Solar Flares. *John T. Mariska, A. Gordon Emslie, & Peng Li.* 341, 1067, 98-D2 (1989)

Soft X-Ray Diagnostics of Electron-heated Solar Flare Atmospheres. *Peng Li, A. Gordon Emslie, & John T. Mariska.* 341, 1075, 98-D10 (1989)

Numerical Simulations of the Rebound Shock Model for Solar Spicules. *Alphonse C. Sterling & John T. Mariska.* 349, 647, 23-C8 (1990)

MARKERT, T. H. High-Resolution X-Ray Spectroscopic Evidence on Nonequlibrium Conditions in the Cygnus Loop. *P. W. Vedder, C. R. Canizares, T. H. Markert, & A. K. Pradhan.* 307, 269, 98-A3 (1986)

MARKERT, THOMAS H. High-Resolution X-Ray Spectroscopy of Four Active Galaxies: Probing the Intercloud Medium. *Kenneth S. K. Lum, Claude R. Canizares, Thomas H. Markert, & Keith A. Arnaud.* 358, 139, 123-F11 (1990)

MARLBOROUGH, J. M. Ultraviolet Observations of Be Stars. II. Superionization in Be Stars of Different Spectral Types. *J. M. Marlborough & Geraldine J. Peters.* 62, 875, 43-D11 (1986)

MARLEY, MARK S. Evolution and Infrared Spectra of Brown Dwarfs. *Jonathan I. Lunine, William B. Hubbard, & Mark S. Marley.* 310, 238, 134-F2 (1986)

Evolution and Infrared Spectra of Brown Dwarfs: Erratum. *Jonathan I. Lunine, William B. Hubbard, & Mark S. Marley.* 316, 473, 55-B13 (1987) (Orig. paper in 310, 238, 134-F2 (1986))

The Periodicities in the Infrared Excess of G29–38: An Oscillating Brown Dwarf? *Mark S. Marley, Jonathan I. Lunine, & William B. Hubbard.* 348, L37, 6-D8 (1990)

MARMOLINO, CIRO. Diagnostics for Propagating Waves in the Solar Photosphere. *Stephen L. Keil & Ciro Marmolino.* 310, 912, 144-A6 (1986)

MARR, J. Study of the H42α (86 GHz) Recombination Line in W3(OH). *Wm. J. Welch & J. Marr.* 317, L21, 71-B10 (1987)

Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)

MARR, J. M. A Fast-moving Knot of Radio Emission in the Active Galaxy NGC 1275. *J. M. Marr, D. C. Backer, M. C. H. Wright, A. C. S. Readhead, & R. Moore.* 337, 671, 27-D1 (1989)

MARRACO, H. G. SN 1987A: A Linear Polarimetric Study. *M. Méndez, A. Clocchiatti, O. G. Benvenuto, C. Feinstein, & H. G. Marraco.* 334, 295, 157-F1 (1988)

MARRACO, HUGO G. Wolf-Rayet Stars in the Magellanic Clouds. VI. Spectroscopic Orbits of WC Binaries and Implications for W-R Evolution. *Anthony F. J. Moffat, Virpi S. Niemela, & Hugo G. Marraco.* 348, 232, 3-G8 (1990)

MARSCHER, ALAN P. Electron-Positron Pair Production by Ultrarelativistic Electrons in a Soft Photon Field. *Apostolos Mastichiadis, Alan P. Marscher, & Kenneth Brecher.* 300, 178, 3-A4 (1986)

Electromagnetic Cascades in the Magnetosphere of a Very Young Pulsar: A Model for the Positron Production near the Galactic Center. *Apostolos Mastichiadis, Kenneth Brecher, & Alan P. Marscher.* 314, 88, 29-A5 (1987)

Multiepoch VLBI Observations of 4C 39.25: Superluminal Motion and Stationary Structure. *David B. Shaffer, Alan P. Marscher, Jon Marcaide, & Jonathan D. Romney.* 314, L1, 33-B4 (1987)

18 Centimeter VLBI Observations of the Quasar NRAO 140 during and after a Low-Frequency Outburst. *Alan P. Marscher, John J. Broderick, Lucia Padrielli, Norbert Bartel, & Jonathan D. Romney.* 319, 456, 98-B8 (1987)

Multifrequency VLBI Observations of 4C 39.25: A Superluminal Source without a Well-defined Core. *Alan P. Marscher, David B. Shaffer, Roy S. Booth, & Barry J. Geldzahler.* 319, L69, 107-D7 (1987)

The Gasdynamics of Compact Relativistic Jets. *Ruth A. Daly & Alan P. Marscher.* 334, 539, 162-C1 (1988)

Contemporaneous X-Ray and VLBI Radio Observations of the Quasar NRAO 140. *Alan P. Marscher.* 334, 552, 162-D1 (1988)

MARSDEN, B. G. Radar Observations of Comet IRAS-Araki-Alcock 1983d. *J. K. Harmon, D. B. Campbell, A. A. Hine, I. I. Shapiro, & B. G. Marsden.* 338, 1071, 47-A6 (1989)

MARSH, T. R. Emission-Line Mapping of the Dwarf Nova IP Pegasi in Outburst and Quiescence. *T. R. Marsh & Keith Horne.* 349, 593, 22-F1 (1990)

Detection of the Secondary Star in HT Cassiopeiae. *T. R. Marsh.* 357, 621, 120-C7 (1990)

Doppler Imaging of the Dwarf Nova U Geminorum. *T. R. Marsh, Keith Horne, Eric M. Schlegel, R. Kent Honeycutt, & Ronald H. Kaitchuck.* 364, 637, 204-B1 (1990)

Changes in the Orbital Periods of Close Binary Stars. *T. R. Marsh & J. E. Pringle.* 365, 677, 216-F1 (1990)

MARSHALL, F. E. The Autocorrelation Properties of Fluctuations in the Cosmic X-Ray Background. *M. Persic, G. De Zotti, E. A. Boldt, F. E. Marshall, L. Danese, A. Franceschini, & G. G. C. Palumbo.* 336, L47, 16-E1 (1989)

Contributions of Low-Luminosity Sources to the X-Ray Background. *M. Persic, G. De Zotti, L. Danese, G. G. C. Palumbo,*

A. Franceschini, E. A. Boldt, & F. E. Marshall. 344, 125, 134-E10 (1989)

Constraints on Large-Scale Clustering from the Autocorrelation Properties of the X-Ray Background. *G. De Zotti, M. Persic, A. Franceschini, L. Danese, G. G. C. Palumbo, E. A. Boldt, & F. E. Marshall.* 351, 22, 38-C10 (1990)

A Catalog of X-Ray Measurements of Selected Samples of Active Galaxies and Nuclei. *R. Della Ceca, G. G. C. Palumbo, M. Persic, E. A. Boldt, G. De Zotti, & F. E. Marshall.* 72, 471, 8-G7 (1990)

X-Ray Study of Superclusters. *M. Persic, K. Jahoda, Y. Rephaeli, E. Boldt, F. E. Marshall, R. F. Mushotzky, & G. Rawley.* 364, 1, 194-A12 (1990)

MARSHALL, FRANCIS E. X-Rays from the Magnetic White Dwarf PG 1658+441. *Steven H. Pravdo, Francis E. Marshall, Nick E. White, & Paolo Giommi.* 300, 819, 12-B8 (1986)

MARSHALL, HERMAN L. The Radio Luminosity Function of Optically Selected Quasars. *Herman L. Marshall.* 316, 84, 50-G14 (1987)

MARTEL, HUGO. Simulation of Cosmological Voids in $\Lambda > 0$ Friedmann Models. *Hugo Martel & Ira Wasserman.* 348, 1, 1-B1 (1990)

MARTENS, P. C. H. The Generation of Proton Beams in Two-Ribbon Flares. *P. C. H. Martens.* 330, L131, 105-B1 (1988)

Formation and Eruption of Solar Prominences. *A. A. van Ballegooijen & P. C. H. Martens.* 343, 971, 131-B7 (1989)

Neutral Beams in Two-Ribbon Flares and in the Geomagnetic Tail. *P. C. H. Martens & A. Young.* 73, 333, 22-C9 (1990)

Magnetic Fields in Quiescent Prominences. *A. A. van Ballegooijen & P. C. H. Martens.* 361, 283, 160-D7 (1990)

MARTI, HANS. High Time Resolution Observations of Hα Line Profiles during the Impulsive Phase of a Solar Flare. *Jean-Pierre Wülser & Hans Marti.* 341, 1088, 98-F1 (1989)

MARTÍ, JOSÉ M^a. Field Theoretical Model for Nuclear and Neutron Matter. IV. Radial Oscillations of Warm Cores in Neutron Stars. *José M^a. Martí, Juan A. Miralles, J. Diaz Alonso, & José M^a. Ibáñez.* 329, 780, 85-E1 (1988)

MARTIC, M. Observation and Oscillatory Properties of Mesostructures in the Solar Chromosphere. *L. Damé & M. Martic.* 314, L15, 33-C2 (1987)

MARTIN, BRIAN. A Test of the Dipole Model for the Rotating Magnetic White Dwarf Feige 7. *Brian Martin & D. T. Wickramasinghe.* 301, 177, 15-G9 (1986)

MARTIN, CHRISTOPHER. Evidence for an Extragalactic Component of the Far-Ultraviolet Background and Constraints on Galaxy Evolution for $0.1 < z < 0.6$. *Christopher Martin & Stuart Bowyer.* 338, 677, 42-C10 (1989)

Discovery of High-Ionization Far-Ultraviolet Line Emission from the Interstellar Medium. *Christopher Martin & Stuart Bowyer.* 350, 242, 28-A7 (1990)

Discovery of Molecular Hydrogen Fluorescence in the Diffuse Interstellar Medium. *Christopher Martin, Mark Hurwitz, & Stuart Bowyer.* 354, 220, 76-F3 (1990)

MARTIN, F. New Observations of Alpha Orionis with a Rotation Shearing Interferometer. *F. Roddier, C. Roddier, R. Petrov, F. Martin, G. Ricort, & C. Aime.* 305, L77, 80-D13 (1986)

MARTIN, H. M. A Search for Small-Scale Structure in the Background Radiation at 6 Centimeters. *H. M. Martin & R. B. Partridge.* 324, 794, 12-B1 (1988)

MARTIN, M. C. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

MARTIN, P. G. Half-Range Moment Methods for Radiative Transfer in Spherical Geometry. IV. Multifrequency Problems with Radiative Equilibrium. *C. Rogers & P. G. Martin.* 311, 800, 156-E5 (1986)

Excitation and Dissociation of Molecular Hydrogen in Shock Waves at Interstellar Densities. *J. E. Dove, A. C. M. Rusk, P. H. Cribb, & P. G. Martin.* 318, 379, 83-A11 (1987)

Supernova 1987A in the Large Magellanic Cloud: The Explosion of a $\sim 20\ M_\odot$ Star Which Has Experienced Mass Loss? *S. E. Woosley, P. A. Pinto, P. G. Martin, & Thomas A. Weaver.* 318, 664, 88-B11 (1987)

Carbon Grains in the Envelope of IRC +10216. *P. G. Martin & C. Rogers.* 322, 374, 142-A1 (1987)

Hydrogenic Radiative Recombination at Low Temperature and Density. *P. G. Martin.* 66, 125, 3-C1 (1988)

Optical Polarization of Seyfert Galaxies. *Ian B. Thompson & P. G. Martin.* 330, 121, 91-D1 (1988)

Interstellar Extinction and Polarization in the Infrared. *P. G. Martin & D. C. B. Whittet.* 357, 113, 112-D10 (1990)

MARTIN, PIERRE. The Optical Jet of the Galaxy NGC 4258: Interaction with the Interstellar Medium. *Pierre Martin, Jean-René Roy, Louis Noreau, & K. Y. Lo.* 345, 707, 159-E1 (1989)

MARTIN, R. High-Velocity Evaporation during the Impulsive Phase of the 1984 April 24 Flare. *E. Antonucci, M. A. Dodero, & R. Martin.* 73, 137, 19-D11 (1990)

Velocity-Temperature Distribution in the Evaporating Plasma during the Impulsive Phase of Solar Flares. *E. Antonucci, M. A. Dodero, & R. Martin.* 73, 147, 19-E11 (1990)

Velocity-Temperature Distribution in the Evaporating Plasma during the Impulsive Phase of Solar Flares: Erratum. *E. Antonucci, M. A. Dodero, & R. Martin.* 74, 830, 42-B3 (1990) (Orig. paper in 73, 147, 19-E11 (1990))

MARTIN, R. N. The Bipolar Molecular Outflow of V645 Cygni. *A. Schulz, J. H. Black, C. J. Lada, B. L. Ulich, R. N. Martin, R. L. Snell, & N. J. Erickson.* 341, 288, 87-D9 (1989)

MARTIN, ROBERT N. Submillimeter Observations of CS in M17. *Ronald L. Snell, Neal R. Erickson, Paul F. Goldsmith, Bobby L. Ulich, Charles J. Lada, Robert N. Martin, & Andreas Schulz.* 304, 780, 64-F4 (1986)

Hot Gas in the Nucleus of IC 342. *Robert N. Martin & Paul T. P. Ho.* 308, L7, 113-F2 (1986)

H_2O Maser Emission from the Nuclei of NGC 253 and M51. *Paul T. P. Ho, Robert N. Martin, Christian Henkel, & Jean L. Turner.* 320, 663, 117-A12 (1987)

Hot Gas in the Nucleus of IC 342: Detection of $J = 3$–2 CO Emission. *Paul T. P. Ho, Jean L. Turner, & Robert N. Martin.* 322, L67, 152-B3 (1987)

Hot Gas in the Nucleus of M82: ^{12}CO and ^{13}CO $J = 3$–2 Observations. *Jean L. Turner, Robert N. Martin, & Paul T. P. Ho.* 351, 418, 45-C5 (1990)

VLA Imaging of Extragalactic Ammonia: Hot Gas in the Nucleus of IC 342. *Paul T. P. Ho, Robert N. Martin, Jean L. Turner, & James M. Jackson.* 355, L19, 92-C1 (1990)

MARTINELL, JULIO J. Expansion and Stability of a Magnetic Arcade during a Solar Flare. *Julio J. Martinell.* 365, 342, 210-F1 (1990)

MARTINEZ, P. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

MARTÍNEZ, VICENT J. Multifractal Description of the Large-Scale Structure of the Universe. *Bernard J. T. Jones, Vicent J. Martínez, Enn Saar, & Jaan Einasto.* 332, L1, 129-B5 (1988)

Multidimensional Analysis of the Large-Scale Segregation of Luminosity. *Rosa Domínguez-Tenreiro & Vicent J. Martínez.* 339, L9, 58-B1 (1989)

Clustering Paradigms and Multifractal Measures. *Vicent J. Martínez, Bernard J. T. Jones, Rosa Domínguez-Tenreiro, & Rien van de Weygaert.* 357, 50, 111-F3 (1990)

MARTÍNEZ-GONZÁLES, E. Large-Scale Streaming Motions and Microwave Background Anisotropies. *E. Martínez-Gonzáles & J. L. Sanz.* 347, 11, 182-C1 (1989)

MARTÍNEZ-GONZÁLEZ, E. Cluster Correlations: A Test for Biased Scenarios. *E. Martínez-González & J. L. Sanz.* 324, 653, 10-D13 (1988)

The Galaxy Luminosity Function and the Morphological Type. *E. Martínez-González & J. L. Sanz.* 332, 89, 124-B10 (1988)
Rings and Spots in the Structure of the Cosmic Background Radiation. *F. Argüeso, E. Martínez-González, & J. L. Sanz.* 336, 69, 1-G11 (1989)
Anisotropies in the Microwave Sky Due to Nonlinear Structures. *E. Martínez-González, J. L. Sanz, & J. Silk.* 355, L5, 92-B1 (1990)
MARTÍNEZ PILLET, V. Circular Polarization of the Ca II H and K Lines in Solar Quiet and Active Regions. *V. Martínez Pillet, R. J. García López, J. C. del Toro Iniesta, R. Rebolo, M. Vázquez, J. E. Beckman, & S. Char.* 361, L81, 168-F6 (1990)
MARTINIS, L. Millimeter Observations of the Magellanic Clouds. *P. Andreani, C. Ceccarelli, G. Dall'Oglio, L. Martinis, L. Piccirillo, L. Pizzo, L. Rossi, & C. Venturino.* 348, 467, 8-D3 (1990)
MARTÍN-PINTADO, J. The Molecular Envelope of Mira. *P. Planesas, R. Bachiller, J. Martín-Pintado, & V. Bujarrabal.* 351, 263, 41-C7 (1990)
MARTÍN-PINTADO, JESÚS. Large-Scale Interaction of the Outflow and Quiescent Gas in Orion. *Jesús Martín-Pintado, Arturo Rodríguez-Franco, & Rafael Bachiller.* 357, L49, 121-E3 (1990)
MARTINS, DONALD H. RICHFLD Photometry of NGC 6723. *Donald H. Martins & Dorothy A. Fraquelli.* 65, 83, 28-G2 (1987)
MARUSCHAK, J. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)
MARZIANI, PAOLO. Implications of Arp 102B: Line Emission from an Accretion Disk? *Jack W. Sulentic, Massimo Calvani, Paolo Marziani, & Wei Zheng.* 355, L15, 92-B11 (1990)
MASAI, KUNIAKI. X-Ray Spectra of the Cassiopeia A and Tycho Supernova Remnants and Their Element Abundances. *Hiroshi Tsunemi, Koujun Yamashita, Kuniaki Masai, Satio Hayakawa, & Katsuji Koyama.* 306, 248, 84-A8 (1986)
X-Ray Emission from the Remnant of a Carbon Deflagration Supernova: SN 1572 (Tycho). *Hiroshi Itoh, Kuniaki Masai, & Ken'ichi Nomoto.* 334, 279, 157-D7 (1988)
MASAIKE, A. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)
MASAK, DIETER. Rapidly Rotating Pulsars and the Equation of State. *James M. Lattimer, Madappa Prakash, Dieter Masak, & Amos Yahil.* 355, 241, 89-G10 (1990)
MASHEDER, M. R. W. *Ariel 6* Measurements of the Fluxes of Ultra-heavy Cosmic Rays. *P. H. Fowler, R. N. F. Walker, M. R. W. Masheder, R. T. Moses, A. Worley, & A. M. Gay.* 314, 739, 37-F7 (1987)
MAS HESSE, J. M. A Survey of Interstellar Sulfur Abundance and Implications for P II Oscillator Strengths. *A. W. Harris & J. M. Mas Hesse.* 308, 240, 110-F5 (1986)
MASI, S. Far-Infrared Diffuse Emission: Cosecant *b* Law and Galaxy Counts. *P. de Bernardis, S. Masi, F. Melchiorri, G. Moreno, R. Vannoni, & S. Aiello.* 326, 941, 43-G8 (1988)
Infrared Emission from Interplanetary Dust. *P. Temi, P. de Bernardis, S. Masi, G. Moreno, & A. Salama.* 337, 528, 24-B1 (1989)
On the Dipole and Quadrupole Kinematic Anisotropy in the Brightness of the Cosmic Background Radiation. *P. de Bernardis, M. Epifani, G. Guarini, S. Masi, F. Melchiorri, & B. Melchiorri.* 353, 145, 64-A1 (1990)
Search for Cosmological Emission Lines: A New Method. *P. de Bernardis, S. Masi, B. Melchiorri, & F. Melchiorri.* 357, 8, 111-B10 (1990)
A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)
MASI, SILVIA. Extragalactic Infrared Backgrounds, Polarization, and Universal Magnetic Field. *Paolo de Bernardis, Silvia Masi, Francesco Melchiorri, & Giovanni Moreno.* 340, L45, 83-A10 (1989)
Data Analysis and Monte Carlo Simulation of a Cosmic Background Radiation Anisotropy Experiment. *Nicola Vittorio, Paolo de Bernardis, Silvia Masi, & Roberto Scaramella.* 341, 163, 86-A1 (1989)
MASNOU, J. L. Observation of the Vela Pulsar, PSR 0833–45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)
Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)
Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)
MASON, G. M. The Heavy-Ion Compositional Signature in ^{3}He-rich Solar Particle Events. *G. M. Mason, D. V. Reames, B. Klecker, D. Hovestadt, & T. T. von Rosenvinge.* 303, 849, 51-G1 (1986)
A Multispacecraft Study of the Injection and Transport of Solar Energetic Particles. *J. Beeck, G. M. Mason, D. C. Hamilton, G. Wibberenz, H. Kunow, D. Hovestadt, & B. Klecker.* 322, 1052, 151-D14 (1987)
Impulsive Acceleration and Scatter-free Transport of ~ 1 MeV per Nucleon Ions in ^{3}He-rich Solar Particle Events. *G. M. Mason, C. K. Ng, B. Klecker, & G. Green.* 339, 529, 56-D5 (1989)
Seed Population for ~1 MeV per Nucleon Heavy Ions Accelerated by Interplanetary Shocks. *L. C. Tan, G. M. Mason, B. Klecker, & D. Hovestadt.* 345, 572, 156-B7 (1989)
MASON, H. E. Electron Density Diagnostics in the 10–100 Å Interval for a Solar Flare. *W. A. Brown, M. E. Bruner, L. W. Acton, & H. E. Mason.* 301, 981, 26-D10 (1986)
Spectral Line Profiles of Fe XXI 1354.1 Å from the *Solar Maximum Mission*. *H. E. Mason, R. A. Shine, J. B. Gurman, & R. A. Harrison.* 309, 435, 124-F2 (1986)
MASON, K. O. Simultaneous X-Ray and Infrared Observations of Cygnus X-3. *K. O. Mason, F. A. Córdova, & N. E. White.* 309, 700, 129-A1 (1986)
Soft X-Ray Emission from the Radio Pulsar PSR 0656+14. *F. A. Córdova, R. M. Hjellming, K. O. Mason, & J. Middleditch.* 345, 451, 154-F8 (1989)
MASON, PAUL A. H0538+608: A Long-Period AM Her System Exhibiting Extreme Variations in Accretion Geometry. *Paul A. Mason, James Liebert, & Gary D. Schmidt.* 346, 941, 178-G2 (1989)
MASSA, DERCK. Ultraviolet Extinction toward Five Open Clusters, and the Accuracy of *IUE* Extinction Measurements. *Derck Massa & Edward L. Fitzpatrick.* 60, 305, 4-E4 (1986)
An Analysis of the Shapes of Ultraviolet Extinction Curves. I. The 2175 Å Bump. *Edward L. Fitzpatrick & Derck Massa.* 307, 286, 98-B9 (1986)
Highly Ionized Interstellar Gas Located in the Galactic Disk and Halo. *Blair D. Savage & Derck Massa.* 314, 380, 32-C11 (1987)
An Analysis of the Shapes of Ultraviolet Extinction Curves. II. The Far-UV Extinction. *Edward L. Fitzpatrick & Derck Massa.* 328, 734, 71-B4 (1988)
An Analysis of the Shapes of Ultraviolet Extinction Curves. III. An Atlas of Ultraviolet Extinction Curves. *Edward L. Fitzpatrick & Derck Massa.* 72, 163, 4-B1 (1990)
Ultraviolet Interstellar Absorption toward HD 163522, a Halo Star at 9 Kiloparsecs in the Direction $l = 350°$ and $b = -9°$. *Blair D. Savage, Derck Massa, & Kenneth Sembach.* 355, 114, 88-D5 (1990)

MASSAGLIA, S. The Equilibrium Structure of Thin Magnetic Flux Tubes. II. *W. Kalkofen, R. Rosner, A. Ferrari, & S. Massaglia.* 304, 519, 59-E10 (1986)
Current-driven Magnetohydrodynamic Thermal Instabilities in Sheared Fields. *G. Bodo, A. Ferrari, S. Massaglia, & R. Rosner.* 313, 432, 19-F10 (1987)
The Equilibrium Structure of a Thin Magnetic Flux Tube. III. The Effects of Molecular CO Absorption. *S. Massaglia, G. Bodo, W. Kalkofen, & R. Rosner.* 333, 925, 150-D9 (1988)
MASSAGUER, JOSEP M. Nonlinear Compressible Convection Penetrating into Stable Layers and Producing Internal Gravity Waves. *Neal E. Hurlburt, Juri Toomre, & Josep M. Massaguer.* 311, 563, 154-A10 (1986)
MASSARO, E. An Exceptional Change in the X-Ray Flux and Spectrum of the Seyfert 1 Galaxy E1615+061. *L. Piro, E. Massaro, G. C. Perola, & D. Molteni.* 325, L25, 31-C1 (1988)
Short Time Scale Variability of the BL Lacertae Object OJ 287 in the Near-Infrared. *D. Lorenzetti, E. Massaro, G. C. Perola, & L. Spinoglio.* 71, 175, 37-B1 (1989)
Small-Amplitude Coherent Signals in the X-Ray Emission of NGC 4151. *F. Fiore, E. Massaro, G. C. Perola, & L. Piro.* 347, 171, 183-C1 (1989)
Observation of the Vela Pulsar, PSR 0833–45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)
Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)
Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, J. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)
MASSEY, PHILIP. Spectroscopic Studies of Wolf-Rayet Stars. III. The WC Subclass. *Ana V. Torres, Peter S. Conti, & Philip Massey.* 300, 379, 5-B13 (1986)
An Atlas of Optical Spectrophotometry of Wolf-Rayet Carbon and Oxygen Stars. *Ana V. Torres & Philip Massey.* 65, 459, 35-A2 (1987)
Are There Stellar Winds in the Hot Stars of M31? *J. B. Hutchings, Philip Massey, & L. Bianchi.* 322, L79, 152-B13 (1987)
Spectrophotometric Standards. *Philip Massey, Kevin Strobel, Jeannette V. Barnes, & Edwin Anderson.* 328, 315, 65-D8 (1988)
An Exceptionally Bright, Compact Starburst Nucleus. *Bruce Margon, Scott F. Anderson, Mario Mateo, Michel Fich, & Philip Massey.* 334, 597, 163-A1 (1988)
Spectroscopic Studies of Wolf-Rayet Stars. IV. Optical Spectrophotometry of the Emission Lines in Galactic and Large Magellanic Cloud Stars. *Peter S. Conti & Philip Massey.* 337, 251, 20-D12 (1989)
Spectroscopic Studies of Wolf-Rayet Stars. V. Optical Spectrophotometry of the Emission Lines in Small Magellanic Cloud Stars. *Peter S. Conti, Philip Massey, & Catharine D. Garmany.* 341, 113, 85-D1 (1989)
The "WN+WC" Wolf-Rayet Stars MR 111 and GP Cep: Spectrum Binaries or Missing Links? *Philip Massey & Kjirsten Grove.* 344, 870, 145-A10 (1989)
Spectroscopic Studies of Wolf-Rayet Stars. VI. Optical Spectrophotometry of Near-Infrared Emission Lines in Some Galactic Stars. *Peter S. Conti, Philip Massey, & Jean-Marie Vreux.* 354, 359, 78-E2 (1990)
The Kitt Peak Spectrophotometric Standards: Extension to 1 Micron. *Philip Massey & Caryl Gronwall.* 358, 344, 126-C12 (1990)
MASSI, M. Solar System–sized Condensations in the Orion Nebula. *E. Churchwell, M. Felli, D. O. S. Wood, & M. Massi.* 321, 516, 127-F11 (1987)
MASSINA, D. C. *SMM* Detection of Diffuse Galactic 511 keV Annihilation Radiation: Erratum. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Massina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 331, 1078, 120-G4 (1988) (Orig. paper in 326, 717, 41-E1 (1988))
MASSON, C. R. The Rotational Emission-Line Spectrum of Orion A between 247 and 263 GHz. *Geoffrey A. Blake, E. C. Sutton, C. R. Masson, & T. G. Phillips.* 60, 357, 5-A14 (1986)
Angular Expansion Measurement with the VLA: The Distance to NGC 7027. *C. R. Masson.* 302, L27, 35-B14 (1986)
High-Resolution Mapping of Molecular Outflows in NGC 2071, W49, and NGC 7538. *N. Z. Scoville, A. I. Sargent, D. B. Sanders, M. J. Claussen, C. R. Masson, K. Y. Lo, & T. G. Phillips.* 303, 416, 45-F2 (1986)
Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)
Small-Scale Structure of the Circumstellar Gas of HL Tauri and R Monocerotis. *S. Beckwith, A. I. Sargent, N. Z. Scoville, C. R. Masson, B. Zuckerman, & T. G. Phillips.* 309, 755, 129-E3 (1986)
Excitation of Methyl Cyanide in the Hot Core of Orion. *E. C. Sutton, Geoffrey A. Blake, R. Genzel, C. R. Masson, & T. G. Phillips.* 311, 921, 158-A1 (1986)
Molecular Gas in the Starburst Nucleus of M82. *K. Y. Lo, K. W. Cheung, C. R. Masson, T. G. Phillips, S. L. Scott, & D. P. Woody.* 312, 574, 9-B7 (1987)
Molecular Abundances in OMC-1: The Chemical Composition of Interstellar Molecular Clouds and the Influence of Massive Star Formation. *Geoffrey A. Blake, E. C. Sutton, C. R. Masson, & T. G. Phillips.* 315, 621, 47-D9 (1987)
Molecular Spiral Structure in M51. *K. Y. Lo, R. Ball, C. R. Masson, T. G. Phillips, S. Scott, & D. P. Woody.* 317, L63, 78-B11 (1987)
CO Maps of the OMC-1 Outflow. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 319, 446, 98-A11 (1987)
Structure of a Possible Circumbinary Disk around T Tauri. *D. A. Weintraub, C. R. Masson, & B. Zuckerman.* 320, 336, 111-F9 (1987)
A Possible Protostar near HH 7–11. *E. N. Grossman, C. R. Masson, A. I. Sargent, N. Z. Scoville, S. Scott, & D. P. Woody.* 320, 356, 112-A1 (1987)
VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)
CO Emission from Centaurus A. *T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, R. J. Howard, C. R. Masson, D. B. Sanders, B. Veidt, & K. Young.* 322, L73, 152-B8 (1987)
CO Maps of the OMC-1 Outflow: Erratum. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 446, 98-A11 (1987))
Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)
CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)
Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at $\gamma = 1.4$ Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)
Measurements of Keplerian Rotation of the Gas in the Circumbinary Disk around T Tauri. *David A. Weintraub, C. R. Masson, & B. Zuckerman.* 344, 915, 145-D13 (1989)
CO $J = 3$–2 Observations of the Neutral Disk in Sagittarius A West. *E. C. Sutton, W. C. Danchi, P. A. Jaminet, & C. R. Masson.* 348, 503, 8-G10 (1990)
MASSON, COLIN. Small-Scale Structure of the Circumstellar Gas around L1551 IRS 5. *Anneila I. Sargent, Steven Beckwith, Jocelyn Keene, & Colin Masson.* 333, 936, 150-E6 (1988)

MASSON, COLIN R. Protostellar Condensations within the Orion Ridge. *Lee G. Mundy, Nicholas Z. Scoville, Lars B. Bââth, Colin R. Masson, & David P. Woody.* 304, L51, 66-C2 (1986)
The Hot Core of Orion: 4″ Maps of HC_3N Emission. *Colin R. Masson & Lee G. Mundy.* 324, 538, 7-B8 (1988)
High-Resolution Images of the Orion Molecular Ridge in the CS $J = 2$–1 Transition. *Lee G. Mundy, T. J. Cornwell, Colin R. Masson, Nicholas Z. Scoville, Lars B. Bââth, & Lars E. B. Johansson.* 325, 382, 23-D3 (1988)
The Structure of NGC 7027 and a Determination of Its Distance by Measurement of Proper Motions. *Colin R. Masson.* 336, 294, 4-F6 (1989)
The Structures of and Distances to BD +30°3639 and NGC 6572. *Colin R. Masson.* 346, 243, 169-B7 (1989)
On the Structure of Ionization-bounded Planetary Nebulae. *Colin R. Masson.* 348, 580, 9-G3 (1990)
Detection of a 45 AU Radius Source around L1551-IRS 5: A Possible Accretion Disk. *Jocelyn Keene & Colin R. Masson.* 355, 635, 96-D12 (1990)
The Extremely High Velocity CO Flow in HH 7–11. *Colin R. Masson, Lee G. Mundy, & Jocelyn Keene.* 357, L25, 115-D7 (1990)
MASTICHIADIS, APOSTOLOS. Electron-Positron Pair Production by Ultrarelativistic Electrons in a Soft Photon Field. *Apostolos Mastichiadis, Alan P. Marscher, & Kenneth Brecher.* 300, 178, 3-A4 (1986)
Electromagnetic Cascades in the Magnetosphere of a Very Young Pulsar: A Model for the Positron Production near the Galactic Center. *Apostolos Mastichiadis, Kenneth Brecher, & Alan P. Marscher.* 314, 88, 29-A5 (1987)
MASUDA, AKIMASA. Detection of Five ^{13}C Isotopic Species of HC_5N in TMC-1. *Shuro Takano, Hiroko Suzuki, Masatoshi Ohishi, Shin-ichi Ishikawa, Norio Kaifu, Yasuhiro Hirahara, & Akimasa Masuda.* 361, L15, 161-D11 (1990)
MATARRESE, S. Multipole Anisotropies of the Cosmic Background Radiation and Inflationary Models. *R. Fabbri, F. Lucchin, & S. Matarrese.* 315, 1, 40-A7 (1987)
MATARRESE, SABINO. A Path-Integral Approach to Large-Scale Matter Distribution Originated by Non-Gaussian Fluctuations. *Sabino Matarrese, Francesco Lucchin, & Silvio A. Bonometto.* 310, L21, 138-B9 (1986)
Optical Bias and Hierarchical Clustering. *Silvio A. Bonometto, Francesco Lucchin, & Sabino Matarrese.* 323, 19, 153-C6 (1987)
Cold Dark Matter Dominated, Inflationary Universe with $\Omega_0 < 1$ and $n < 1$. *Nicola Vittorio, Sabino Matarrese, & Francesco Lucchin.* 328, 69, 62-F9 (1988)
Scale-Invariant Clustering and Primordial Biasing. *Francesco Lucchin, Sabino Matarrese, & Nicola Vittorio.* 330, L21, 96-E1 (1988)
The Effect of Non-Gaussian Statistics on the Mass Multiplicity of Cosmic Structures. *Francesco Lucchin & Sabino Matarrese.* 330, 535, 98-D3 (1988)
The Mass Function from Local Density Maxima: Groups and Clusters of Galaxies. *Sergio Colafrancesco, Francesco Lucchin, & Sabino Matarrese.* 345, 3, 149-A11 (1989)
MATEO, MARIO. Discovery of a New Short-Period, Eclipsing Cataclysmic Variable. *Ronald A. Downes, Mario Mateo, Paula Szkody, David C. Jenner, & Bruce Margon.* 301, 240, 16-E9 (1986)
Z Camelopardalis: Outburst P Cygni Profiles and Quiescent Continuum. *Paula Szkody & Mario Mateo.* 301, 286, 17-A10 (1986)
CCD Photometry of Large Magellanic Cloud Clusters. II. The Intermediate-Age Cluster H4. *Mario Mateo & Paul Hodge.* 60, 893, 14-B1 (1986)
CCD Photometry of Large Magellanic Cloud Clusters. III. The Unique, Remote Cluster ESO 121-SC03. *Mario Mateo, Paul Hodge, & R. A. Schommer.* 311, 113, 147-C4 (1986)
CCD Photometry of Large Magellanic Cloud Clusters. IV. The Metal-rich, Remote Southern Cluster LW 79. *Mario Mateo & Paul Hodge.* 320, 626, 116-D14 (1987)
Collapsed Cores and the Structural Parameters of Old Large Magellanic Cloud Star Clusters. *Mario Mateo.* 323, L41, 158-C12 (1987)
UBVR CCD Photometry of Stars in M31. I. Baade's Field IV. *Paul Hodge, Myung G. Lee, & Mario Mateo.* 324, 172, 3-A7 (1988)
Main-Sequence Luminosity and Initial Mass Functions of Six Magellanic Cloud Star Clusters Ranging in Age from 10 Megayears to 2.5 Gigayears. *Mario Mateo.* 331, 261, 109-A2 (1988)
An Exceptionally Bright, Compact Starburst Nucleus. *Bruce Margon, Scott F. Anderson, Mario Mateo, Michel Fich, & Philip Massey.* 334, 597, 163-A1 (1988)
Possible Pleiades Members with $\mathcal{M} \cong 0.07\ \mathcal{M}_\odot$: Identification of Brown Dwarf Candidates of Known Age, Distance, and Metallicity. *John Stauffer, Donald Hamilton, Ronald Probst, George Rieke, & Mario Mateo.* 344, L21, 140-B13 (1989)
Cepheids in Magellanic Cloud Star Clusters: Fundamental and Overtone Pulsators in NGC 2157. *Mario Mateo, Edward W. Olszewski, & Barry F. Madore.* 353, L11, 67-B8 (1990)
CN and CH Variations among Giants in the Globular Cluster M2. *Graeme H. Smith & Mario Mateo.* 353, 533, 70-E8 (1990)
A Study of the Eclipsing Cataclysmic Variable Lanning 90. *Peter M. Garnavich, Paula Szkody, Mario Mateo, Laurie Feinswog, John Booth, Bret Goodrich, H. Richard Miller, Michael T. Carini, & John W. Wilson.* 365, 696, 216-G13 (1990)
MATHER, J. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)
MATHER, J. C. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)
MATHER, JOHN C. Infrared Emission from Dust in the Coma Cluster of Galaxies. *Eli Dwek, Yoel Rephaeli, & John C. Mather.* 350, 104, 26-C5 (1990)
MATHEWS, G. J. Stellar Technetium and Niobium Abundances as a Measure of the Lifetime of AGB Stars in the Third Dredge-up Phase. *G. J. Mathews, K. Takahashi, R. A. Ward, & W. M. Howard.* 302, 410, 32-F10 (1986)
Primordial Nucleosynthesis in Inhomogeneous Cosmologies: $\Omega = 1$ with Baryons. *K. E. Sale & G. J. Mathews.* 309, L1, 125-C8 (1986)
Parametric Study of Pulsed Neutron Source Models for the *s*-Process. *W. M. Howard, G. J. Mathews, K. Takahashi, & R. A. Ward.* 309, 633, 128-B12 (1986)
Binding Energies of Q-Nuclei and Stellar Hydrogen Burning. *C. A. Hughes, S. D. Bloom, & G. J. Mathews.* 311, 485, 151-C10 (1986)
The Quark-Hadron Phase Transition and Primordial Nucleosynthesis. *C. R. Alcock, G. M. Fuller, & G. J. Mathews.* 320, 439, 114-C1 (1987)
Thorium/Neodymium Cosmochronology and Galactic Chemical Evolution. *G. J. Mathews & D. N. Schramm.* 324, L67, 18-D1 (1988)
Binding Energies of Q-Nuclei and Stellar Hydrogen Burning: Erratum. *C. A. Hughes, S. D. Bloom, & G. J. Mathews.* 325, 520, 24-G8 (1988) (Orig. paper in 311, 485, 151-C10 (1986))
Galactic Chemical Evolution with Low and High Primordial Lithium. *G. J. Mathews, C. R. Alcock, & G. M. Fuller.* 349, 449, 20-G1 (1990)
Metallicity-dependent Stellar Ages and the G Dwarf Problem. *Grant Bazan & G. J. Mathews.* 354, 644, 84-C9 (1990)
Deviation from Periodicity in the Large-Scale Distribution of Galaxies. *H. Kurki-Suonio, G. J. Mathews, & G. M. Fuller.* 356, L5, 103-B11 (1990)
Coupled Baryon Diffusion and Nucleosynthesis in the Early Universe. *G. J. Mathews, B. S. Meyer, C. R. Alcock, & G. M. Fuller.* 358, 36, 122-D11 (1990)
Primordial Nucleosynthesis of Intermediate-Mass Elements in Baryon-Number–inhomogeneous Big Bang Models: Observational Tests. *T. Kajino, G. J. Mathews, & G. M. Fuller.* 364, 7, 194-B6 (1990)
MATHEWS, GRANT J. Stellar Photonuclear Reactions and the Actinide Cosmochronometers. *Robert A. Malaney, Grant J. Mathews, & David S. P. Dearborn.* 345, 169, 151-B9 (1989)

MATHEWS, WILLIAM G. Structure and Stability of Quasar Clouds. *William G. Mathews.* 305, 187, 69-A5 (1986)
Hot Galactic Flows. *William G. Mathews & Michael Loewenstein.* 306, L7, 86-A9 (1986)
Gas Clouds in Galactic Bulges. *William G. Mathews & Stephen D. Murray.* 312, 66, 1-F12 (1987)
Evolution of Hot Galactic Flows. *Michael Loewenstein & William G. Mathews.* 319, 614, 101-F4 (1987)
What Heats the Hot Phase in Active Nuclei? *William G. Mathews & Gary J. Ferland.* 323, 456, 159-E6 (1987)
Stability of Narrow Emission-Line Clouds in Active Galactic Nuclei. *William G. Mathews & Sylvain Veilleux.* 336, 93, 2-B8 (1989)
Can Quasar Clouds Form in Thermal Instabilities? *William G. Mathews & Jay S. Doane.* 352, 423, 56-D1 (1990)
Interstellar Events in Elliptical Galaxies. *William G. Mathews.* 354, 468, 82-C1 (1990)
MATHEWSON, D. S. The Structure of the Small Magellanic Cloud. *D. S. Mathewson, V. L. Ford, & N. Visvanathan.* 301, 664, 22-G11 (1986)
The Structure of the Small Magellanic Cloud. II. *D. S. Mathewson, V. L. Ford, & N. Visvanathan.* 333, 617, 146-G1 (1988)
MATHIEU, R. Candidate Solar-Type Protostars in Nearby Molecular Cloud Cores. *C. A. Beichman, P. C. Myers, J. P. Emerson, S. Harris, R. Mathieu, P. J. Benson, & R. E. Jennings.* 307, 337, 98-F13 (1986)
MATHIEU, R. D. Rotational and Radial Velocities of T Tauri Stars. *L. Hartmann, R. Hewett, S. Stahler, & R. D. Mathieu.* 309, 275, 122-G14 (1986)
Near-Infrared and Optical Observations of IRAS Sources in and near Dense Cores. *P. C. Myers, Gary A. Fuller, R. D. Mathieu, C. A. Beichman, P. J. Benson, R. E. Schild, & J. P. Emerson.* 319, 340, 96-F5 (1987)
MATHIEU, ROBERT D. CO Emission from Seyfert Galaxies: Further Observations. *Leo Blitz, Robert D. Mathieu, & John Bally.* 311, 142, 147-E9 (1986)
The Circularized Binaries in Open Clusters: A New Clock for Age Determination. *Robert D. Mathieu & Tsevi Mazeh.* 326, 256, 35-A8 (1988)
L43: An Example of Interaction between Molecular Outflows and Dense Cores. *Robert D. Mathieu, Priscilla J. Benson, Gary A. Fuller, Philip C. Myers, & Rudolph E. Schild.* 330, 385, 94-E1 (1988)
MATHIS, JOHN S. The Photoionization of the Diffuse Galactic Gas. *John S. Mathis.* 301, 423, 18-D12 (1986)
The Alignment of Interstellar Grains. *John S. Mathis.* 308, 281, 111-B5 (1986)
On the Chemical Homogeneity of the 30 Doradus H II Region and a Local Enrichment by Wolf-Rayet Stars. *Michael Rosa & John S. Mathis.* 317, 163, 65-F11 (1987)
On the Relationship between Optical Polarization and Extinction. *Geoffrey C. Clayton & John S. Mathis.* 327, 911, 58-E11 (1988)
The Determination of Ultraviolet Extinction from the Optical and Near-Infrared. *Jason A. Cardelli, Geoffrey C. Clayton, & John S. Mathis.* 329, L33, 81-C11 (1988)
Composite Interstellar Grains. *John S. Mathis & G. Whiffen.* 341, 808, 95-C1 (1989)
The Relationship between Infrared, Optical, and Ultraviolet Extinction. *Jason A. Cardelli, Geoffrey C. Clayton, & John S. Mathis.* 345, 245, 152-B9 (1989)
MATHIS, K. D. Propagation of Injected Cosmic Rays under Distributed Reacceleration. *M. Simon, W. Heinrich, & K. D. Mathis.* 300, 32, 1-C10 (1986)
MATILSKY, TERRY. An Intermediate-Sensitivity Survey at High Galactic Latitude with *HEAO* A-1. *Chris R. Shrader, K. S. Wood, & Terry Matilsky.* 61, 353, 22-B6 (1986)
MATILSKY, TERRY A. Is Hercules X-1 a Strange Attractor? *Jay P. Norris & Terry A. Matilsky.* 346, 912, 178-E1 (1989)
MATOUSEK, STEVEN E. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2. John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)
MATRAVERS, D. R. Density Waves in Cosmology. *G. F. R. Ellis, C. Hellaby, & D. R. Matravers.* 364, 400, 200-G12 (1990)
MATSAKIS, D. N. Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)
Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)
Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)
MATSUBARA, Y. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)
Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)
MATSUDA, TAKUYA. Nonlinear Growth of Rayleigh-Taylor Instabilities and Mixing in SN 1987A. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 358, L57, 133-D6 (1990)
MATSUHARA, HIDEO. A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)
An Infrared Study of Starbursts in the Interacting Galaxy Pair Arp 299 (NGC 3690 + IC 694). *Takao Nakagawa, Tetsuya Nagata, T. R. Geballe, Haruyuki Okuda, Hiroshi Shibai, & Hideo Matsuhara.* 340, 729, 77-E1 (1989)
An Infrared Quintuplet near the Galactic Center. *Haruyuki Okuda, Hiroshi Shibai, Takao Nakagawa, Hideo Matsuhara, Yukiyasu Kobayashi, Norio Kaifu, Tetsuya Nagata, I. Gatley, & T. R. Geballe.* 351, 89, 39-B11 (1990)
Infrared Polarimetry of the NGC 6334 V Bipolar Nebula. *Takao Nakagawa, Tetsuya Nagata, Hideo Matsuhara, Haruyuki Okuda, Hiroshi Shibai, & Saeko S. Hayashi.* 351, 573, 47-C1 (1990)
MATSUI, YUTAKA. X-Ray Imaging Observation of the Supernova Remnant PKS 1209−52 and Its Central Compact X-Ray Source. *Yutaka Matsui, Knox S. Long, & Ian R. Tuohy.* 329, 838, 86-C1 (1988)
The Evolution of the Radio Emission from Kepler's Supernova Remnant. *John R. Dickel, Robert Sault, Richard G. Arendt, Yutaka Matsui, & Kirk T. Korista.* 330, 254, 92-G9 (1988)
MATSUMOTO, NORIYOSHI. Neutrino-Pair Bremsstrahlung in Dense Stars. IV. Phonon Constributions in the Crystalline Lattice Phase: Erratum. *Naoki Itoh, Yasuharu Kohyama, Noriyoshi Matsumoto, & Midori Seki.* 322, 584, 144-C9 (1987) (Orig. paper in 285, 304, 113-C2 (1984))
MATSUMOTO, R. Nonlinear Parker Instability of Isolated Magnetic Flux in a Plasma. *K. Shibata, T. Tajima, R. Matsumoto, T. Horiuchi, T. Hanawa, R. Rosner, & Y. Uchida.* 338, 471, 38-F6 (1989)
Two-dimensional Magnetohydrodynamic Model of Emerging Magnetic Flux in the Solar Atmosphere. *K. Shibata, T. Tajima, R. S. Steinolfson, & R. Matsumoto.* 345, 584, 156-C8 (1989)
Magnetic Accretion Disks Fall into Two Types. *K. Shibata, T. Tajima, & R. Matsumoto.* 350, 295, 28-F1 (1990)

Emergence of Solar Magnetic Flux from the Convection Zone into the Photosphere and Chromosphere. *K. Shibata, S. Nozawa, R. Matsumoto, A. C. Sterling, & T. Tajima.* 351, L25, 43-D1 (1990)

Nonlinear Excitation of Magnetic Undular Instability by Convective Motion. *M. Kaisig, T. Tajima, K. Shibata, S. Nozawa, & R. Matsumoto.* 358, 698, 132-C3 (1990)

MATSUMOTO, RYOJI. Nonlinear Parker Instability in Nonuniform Gravitational Fields: Nonlinear Oscillations and Shock Waves. *Ryoji Matsumoto, Toshiro Horiuchi, Tomoyuki Hanawa, & Kazunari Shibata.* 356, 259, 102-C8 (1990)

MATSUMOTO, T. The Submillimeter Spectrum of the Cosmic Background Radiation. *T. Matsumoto, S. Hayakawa, H. Matsuo, H. Murakami, S. Sato, A. E. Lange, & P. L. Richards.* 329, 567, 82-G5 (1988)

A Search for the Near-Infrared Extragalactic Background Light. *T. Matsumoto, M. Akiba, & H. Murakami.* 332, 575, 130-E5 (1988)

MATSUMURA, CHI. Laboratory Microwave Spectrum of $^{13}CH_3OH$. *Hirotada Kuriyama, Kojiro Takagi, Harutoshi Takeo, & Chi Matsumura.* 311, 1073, 159-E9 (1986)

MATSUMURA, K. Laboratory Measurement of the 1_{01}–0_{00} Transition and Electric Dipole Moment of SiC_2. *R. D. Suenram, F. J. Lovas, & K. Matsumura.* 342, L103, 117-G1 (1989)

MATSUO, H. The Submillimeter Spectrum of the Cosmic Background Radiation. *T. Matsumoto, S. Hayakawa, H. Matsuo, H. Murakami, S. Sato, A. E. Lange, & P. L. Richards.* 329, 567, 82-G5 (1988)

MATSUOKA, M. SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

The Pulse-Phase Dependence of the Spectrum of GX 301−2. *D. A. Leahy & M. Matsuoka.* 355, 627, 96-D1 (1990)

X-Ray Spectral Signatures of Very Thick Cold Matter in the Spectra of the Seyfert 1 Galaxies NGC 7469 and IC 4329A. *L. Piro, M. Yamauchi, & M. Matsuoka.* 360, L35, 156-B7 (1990)

X-Ray Spectral Variability and Complex Absorption in the Seyfert 1 Galaxies NGC 4051 and MCG −6-30-15. *M. Matsuoka, L. Piro, M. Yamauchi, & T. Murakami.* 361, 440, 163-E6 (1990)

MATSUOKA, MASARU. Isothermality of the Gas in the Coma Cluster. *John P. Hughes, Koujun Yamashita, Yoshiharu Okumura, Hiroshi Tsunemi, & Masaru Matsuoka.* 327, 615, 55-D6 (1988)

MATT, G. Observations of Galactic and Extragalactic High-Energy X-Ray Sources. *G. Matt, E. Costa, D. Dal Fiume, W. Dusi, F. Frontera, & E. Morelli.* 355, 468, 94-C1 (1990)

Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)

MATTEI, JANET A. Detection of Superhumps and Quasi-periodic Oscillations in the Light Curve of the Dwarf Nova SW Ursae Majoris. *Edward L. Robinson, Allen W. Shafter, J. Allen Hill, Matt A. Wood, & Janet A. Mattei.* 313, 772, 25-C2 (1987)

A Search for Chaotic Behavior in the Light Curves of Three Long-Period Variables. *John K. Cannizzo, D. A. Goodings, & Janet A. Mattei.* 357, 235, 114-A6 (1990)

MATTEUCCI, F. Subluminous Type 1 Supernovae: Their Theoretical Rate in Our Galaxy and in Ellipticals. *A. Tornambè & F. Matteucci.* 318, L25, 85-B12 (1987)

Synthetic Colors and the Chemical Evolution of Elliptical Galaxies. *E. Brocato, F. Matteucci, I. Mazzitelli, & A. Tornambè.* 349, 458, 20-G11 (1990)

MATTEUCCI, FRANCESCA. The Effect of the New $^{12}C(\alpha,\gamma)^{16}O$ Rate on the Chemical Evolution of the Solar Neighborhood. *Francesca Matteucci.* 305, L81, 80-E3 (1986)

The Ultraviolet Spectrum of an Oxygen-rich Supernova Remnant in the Small Magellanic Cloud. *William P. Blair, John C. Raymond, John Danziger, & Francesca Matteucci.* 338, 812, 44-A9 (1989)

Metallicity Distribution and Abundance Ratios in the Stars of the Galactic Bulge. *Francesca Matteucci & Enzo Brocato.* 365, 539, 215-A1 (1990)

MATTHAEUS, W. H. Magnetic Helicity of the Parker Field. *J. W. Bieber, P. A. Evenson, & W. H. Matthaeus.* 315, 700, 48-C7 (1987)

MATTHAEUS, WILLIAM H. Cosmic-Ray Pitch-Angle Scattering in Isotropic Turbulence. *John W. Bieber, Charles W. Smith, & William H. Matthaeus.* 334, 470, 160-A6 (1988)

Cosmic-Ray Pitch-Angle Scattering in Isotropic Turbulence. II. Sensitive Dependence on the Dissipation Range Spectrum. *Charles W. Smith, John W. Bieber, & William H. Matthaeus.* 363, 283, 185-E12 (1990)

MATTHEWS, H. E. The C_3H_2 2_{20}–2_{11} Transition: Absorption in Cold Dark Clouds. *H. E. Matthews, S. C. Madden, L. W. Avery, & W. M. Irvine.* 307, L69, 107-D6 (1986)

Detection of Deuterated Cyclopropenylidene (C_3HD) in TMC-1. *M. B. Bell, P. A. Feldman, H. E. Matthews, & L. W. Avery.* 311, L89, 160-F2 (1986)

Upper Limits to Interstellar PO. *H. E. Matthews, P. A. Feldman, & P. F. Bernath.* 312, 358, 4-F14 (1987)

Observations of OCS and a Search for OC_3S in the Interstellar Medium. *H. E. Matthews, J. M. MacLeod, N. W. Broten, S. C. Madden, & P. Friberg.* 315, 646, 47-F7 (1987)

A Study of C_3HD in Cold Interstellar Clouds. *M. B. Bell, L. W. Avery, H. E. Matthews, P. A. Feldman, J. K. G. Watson, S. C. Madden, & W. M. Irvine.* 326, 924, 43-F2 (1988)

Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)

Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews, Y. Minh, S. Saito, N. Ukita, & S. Yamamoto.* 342, 871, 113-B5 (1989)

MATTHEWS, HENRY E. Interstellar Molecular Line Searches at 1.5 Centimeters. *Henry E. Matthews & Trevor J. Sears.* 300, 766, 11-E9 (1986)

New Interstellar Masers in Nonmetastable Ammonia. *Suzanne C. Madden, William M. Irvine, Henry E. Matthews, Ronald D. Brown, & Peter D. Godfrey.* 300, L79, 13-F2 (1986)

Detection of ^{13}C-substituted C_3H_2 in Astronomical Sources. *Suzanne C. Madden, William M. Irvine, & Henry E. Matthews.* 311, L27, 152-C8 (1986)

MATTHEWS, J. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

MATTHEWS, JAYMIE M. Frequency Analysis of the Rapidly Oscillating Peculiar A Star HD 60435. *Jaymie M. Matthews, Donald W. Kurtz, & William H. Wehlau.* 300, 348, 4-G7 (1986)

On the Lack of Evidence for Nonradial Pulsation in Wolf-Rayet Stars. *Jaymie M. Matthews & Martin Beech.* 313, L25, 21-B12 (1987)

The Rich *p*-Mode Spectrum of the Rapidly Oscillating Peculiar A Star HD 60435. *Jaymie M. Matthews, Donald W. Kurtz, & William H. Wehlau.* 313, 782, 25-C12 (1987)

Detection of Radial Velocity Variations in the Rapidly Oscillating Ap Star HR 1217. *Jaymie M. Matthews, William H. Wehlau, Gordon A. H. Walker, & Stephenson Yang.* 324, 1099, 15-E10 (1988)

Rapid Infrared Photometry of Pulsating Ap Stars: A Measurement of Stellar Limb Darkening. *Jaymie M. Matthews, William H. Wehlau, & Gordon A. H. Walker.* 365, L81, 219-E13 (1990)

MATTHEWS, K. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

X-Ray Spectra of PG Quasars. I. The Continuum from X-Rays to the Infrared. *Martin Elvis, Richard F. Green, Jill Bechtold, Maarten Schmidt, G. Neugebauer, B. T. Soifer, K. Matthews, & G. Fabbiano.* 310, 291, 135-B13 (1986)

Continuum Energy Distributions of Quasars in the Palomar-Green Survey. *G. Neugebauer, R. F. Green, K. Matthews, M. Schmidt, B. T. Soifer, & J. Bennett.* 63, 615, 10-A7 (1987)

Ultraluminous Infrared Galaxies and the Origin of Quasars. *D. B. Sanders, B. T. Soifer, J. H. Elias, B. F. Madore, K. Matthews, G. Neugebauer, & N. Z. Scoville.* 325, 74, 19-G6 (1988)

The Stellar Bar in NGC 1068. *N. Z. Scoville, K. Matthews, D. P. Carico, & D. B. Sanders.* 327, L61, 61-C7 (1988)

Warm Ultraluminous Galaxies in the *IRAS* Survey: The Transition from Galaxy to Quasar? *D. B. Sanders, B. T. Soifer, J. H. Elias, G. Neugebauer, & K. Matthews.* 328, L35, 74-D1 (1988)

PW Vulpeculae: A Dust-poor DQ Herculis? *R. D. Gehrz, T. E. Harrison, E. P. Ney, K. Matthews, G. Neugebauer, J. Elias, G. L. Grasdalen, & J. A. Hackwell.* 329, 894, 86-G6 (1988)

The Optical/Infrared Counterpart(s) of IRAS 18333–2357. *F. C. Gillett, G. H. Jacoby, R. R. Joyce, J. G. Cohen, G. Neugebauer, B. T. Soifer, T. Nakajima, & K. Matthews.* 338, 862, 44-F1 (1989)

Infrared Images of the Nucleus of M31. *Jeremy Mould, James Graham, K. Matthews, B. T. Soifer, & E. S. Phinney.* 339, L21, 58-C1 (1989)

Continuum Energy Distributions of Quasars: Shapes and Origins. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 347, 29, 182-D7 (1989)

The Near-Infrared Morphology of Ultraluminous Infrared Galaxies. *David P. Carico, James R. Graham, K. Matthews, T. D. Wilson, B. T. Soifer, G. Neugebauer, & D. B. Sanders.* 349, L39, 24-B1 (1990)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

The Double Nucleus of Arp 220 Unveiled. *James R. Graham, D. P. Carico, K. Matthews, G. Neugebauer, B. T. Soifer, & T. D. Wilson.* 354, L5, 80-A12 (1990)

The Infrared Excess of G29–38: A Brown Dwarf or Dust? *James R. Graham, K. Matthews, G. Neugebauer, & B. T. Soifer.* 357, 216, 113-F10 (1990)

Continuum Energy Distributions of Quasars: Shapes and Origins: Erratum. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 357, 291, 114-F6 (1990) (Orig. paper in 347, 29, 182-D7 (1989))

MATTHEWS, KEITH. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

The Long-Period Variable Stars of M33. *Jeremy Mould, James R. Graham, Keith Matthews, Gerry Neugebauer, & Jonathan Elias.* 349, 503, 21-E5 (1990)

A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

MATTOX, J. R. Analysis of the *COS B* Data for Evidence of Linear Polarization of Vela Pulsar Gamma Rays. *J. R. Mattox, H. A. Mayer-Hasselwander, & A. W. Strong.* 363, 270, 185-D9 (1990)

MATZ, S. M. Spectral Evolution of Pulse Structures in Gamma-Ray Bursts. *J. P. Norris, G. H. Share, D. C. Messina, B. R. Dennis, U. D. Desai, T. L. Cline, S. M. Matz, & E. L. Chupp.* 301, 213, 16-C7 (1986)

Magnetic Field Distribution in Polar Cap Models of Gamma-Ray Bursters. *Z. Bagoly, P. Mészáros, & S. M. Matz.* 359, 438, 141-D12 (1990)

MATZ, STEVEN M. A Limit on the Production of ^{56}Ni in a Type I Supernova. *Steven M. Matz & Gerald H. Share.* 362, 235, 172-B1 (1990)

MATZNER, RICHARD A. Computer Simulation of Time-dependent, Spherically Symmetric Spacetimes Containing Radiating Fluids: Formalism and Code Tests. *Anthony Messacappa & Richard A. Matzner.* 343, 853, 129-G5 (1989)

Big Bang Nucleosynthesis and the Quark-Hadron Transition. *Hannu Kurki-Suonio, Richard A. Matzner, Keith A. Olive, & David N. Schramm.* 353, 406, 69-B1 (1990)

MAUAS, PABLO J. Mg I as a Probe of the Solar Chromosphere: The Atomic Model. *Pablo J. Mauas, Eugene H. Avrett, & Rudolf Loeser.* 330, 1008, 103-F1 (1988)

Computed Profiles of the Solar C I Multiplets at 1561 and 1657 Å. *Pablo J. Mauas, Eugene H. Avrett, & Rudolf Loeser.* 345, 1104, 164-C1 (1989)

On Carbon Monoxide Cooling in the Solar Atmosphere. *Pablo J. Mauas, Eugene H. Avrett, & Rudolf Loeser.* 357, 279, 114-E3 (1990)

MAUAS, PABLO J. D. The White-Light Flare of 1982 June 15: Models. *Pablo J. D. Mauas, Marcos E. Machado, & Eugene H. Avrett.* 360, 715, 155-A9 (1990)

The White-Light Flare of 1982 June 15: Observations. *Pablo J. D. Mauas.* 74, 609, 38-G3 (1990)

MAUCHE, CHRISTOPHER W. Measurements of X-Ray Scattering from Interstellar Grains. *Christopher W. Mauche & Paul Gorenstein.* 302, 371, 32-C11 (1986)

Effects of the X-Ray Scattering Halo on the Observational Properties of Cygnus X-3. *Lawrence A. Molnar & Christopher W. Mauche.* 310, 343, 135-F11 (1986)

IUE Observations of the Dwarf Nova HL Canis Majoris and the Winds of Cataclysmic Variables. *Christopher W. Mauche & John C. Raymond.* 323, 690, 162-C6 (1987)

Interstellar Absorption Lines in High-Resolution *IUE* Spectra of Cataclysmic Variables. *Christopher W. Mauche, John C. Raymond, & France A. Córdova.* 335, 829, 181-F14 (1988)

X-Ray Halos around Supernova Remnants. *Christopher W. Mauche & Paul Gorenstein.* 336, 843, 13-A1 (1989)

A Study of Extreme-Ultraviolet Emission from Cataclysmic Variables. *Ronald S. Polidan, Christopher W. Mauche, & Richard A. Wade.* 356, 211, 101-F5 (1990)

MAUERSBERGER, R. VLA Observations of the $^{15}NH_3$ Maser Associated with NGC 7538 IRS 1. *K. J. Johnston, S. R. Stolovy, T. L. Wilson, C. Henkel, & R. Mauersberger.* 343, L41, 132-B5 (1989)

A New Bipolar Outflow Source in OMC-1. *L. M. Ziurys, T. L. Wilson, & R. Mauersberger.* 356, L25, 103-D5 (1990)

A Highly Collimated Outflow in the Core of OMC-1. *J. Schmid-Burgk, R. Güsten, R. Mauersberger, A. Schulz, & T. L. Wilson.* 362, L25, 174-C11 (1990)

MAUERSBERGER, RAINER. High-Density Molecular Gas in External Galaxies: Formaldehyde and Carbon Monosulfide. *Willem A. Baan, Christian Henkel, Peter Schilke, Rainer Mauersberger, & Rolf Güsten.* 353, 132, 63-G1 (1990)

MAUROGORDATO, SOPHIE. Void Probabilities in the Galaxy Distribution: Scaling and Luminosity Segregation. *Sophie Maurogordato & Marc Lachièze-Rey.* 320, 13, 108-B5 (1987)

MAXSON, C. W. Multiband Far-Infrared Observations of the NGC 6334 Complex. *L. Loughran, B. McBreen, G. G. Fazio, T. N. Rengarajan, C. W. Maxson, S. Serio, S. Sciortino, & T. P. Ray.* 303, 629, 49-D3 (1986)

MAXWELL, OREN V. Neutrino Emission Processes in Hyperon-populated Neutron Stars. *Oren V. Maxwell.* 316, 691, 59-E14 (1987)

MAY, J. Molecular Clouds in the Carina Arm: Large-Scale Properties of Molecular Gas and Comparison with H I. *D. A. Grabelsky, R. S. Cohen, L. Bronfman, P. Thaddeus, & J. May.* 315, 122, 41-D2 (1987)

A Composite CO Survey of the Entire Milky Way. *T. M. Dame, H. Ungerechts, R. S. Cohen, E. J. de Geus, I. A. Grenier, J. May, D. C. Murphy, L.-Å. Nyman, & P. Thaddeus.* 322, 706, 147-D13 (1987)

A CO Survey of the Southern Milky Way: The Mean Radial Distribution of Molecular Clouds within the Solar Circle. *L. Bronfman, R. S. Cohen, H. Alvarez, J. May, & P. Thaddeus.* 324, 248, 3-G12 (1988)

The Rotation of the Galaxy within the Solar Circle. *H. Alvarez, J. May, & L. Bronfman.* 348, 495, 8-G1 (1990)

MAY, JORGE. MSH 10–53: A Supernova Remnant Interacting with Molecular Clouds. *María Teresa Ruiz & Jorge May.* 309, 667, 128-E6 (1986)

MAYER-HASSELWANDER, H. A. Analysis of the *COS B* Data for Evidence of Linear Polarization of Vela Pulsar Gamma Rays. *J. R. Mattox, H. A. Mayer-Hasselwander, & A. W. Strong.* 363, 270, 185-D9 (1990)

MAYLE, R. The Majoron Model and Stellar Collapse. *G. M. Fuller, R. Mayle, & J. R. Wilson.* 332, 826, 133-D14 (1988)

MAYLE, R. W. Resonant Neutrino Oscillations and Stellar Collapse. *G. M. Fuller, R. W. Mayle, J. R. Wilson, & D. N. Schramm.* 322, 795, 148-E3 (1987)

MAYLE, RON. Gravitational Collapse and the Cosmic Antineutrino Background. *S. E. Woosley, James R. Wilson, & Ron Mayle.* 302, 19, 28-B11 (1986)

Neutrinos from Gravitational Collapse. *Ron Mayle, James R. Wilson, & David N. Schramm.* 318, 288, 82-A11 (1987)

Supernovae from Collapse of Oxygen-Magnesium-Neon Cores. *Ron Mayle & James R. Wilson.* 334, 909, 166-D7 (1988)

MAYOR, M. The Orbit and Properties of the HD 149162 System. *Hugh M. Johnson & M. Mayor.* 310, 354, 135-G9 (1986)

MAYR, HANS G. Convection Zone Origins of Solar Atmospheric Heating. *Kenneth H. Schatten & Hans G. Mayr.* 309, 864, 130-F9 (1986)

A Hillock and Cloud Model for Faculae. *Kenneth H. Schatten, Hans G. Mayr, Kazem Omidvar, & Eugene Maier.* 311, 460, 151-A13 (1986)

Do Faculae Blanket Sunspots? *Kenneth H. Schatten, Jerry Orosz, & Hans G. Mayr.* 347, 514, 188-D1 (1989)

MAZA, J. IRAS 18059–3211: Optically Known as "Gomez's Hamburger": Erratum. *M. T. Ruiz, V. Blanco, J. Maza, S. Heathcote, A. Phillips, K. Kawara, C. Anguita, M. Hamuy, & A. Gómez.* 320, L157, 121-F14 (1987) (Orig. paper in 316, L21, 56-B10 (1987))

MAZA, JOSÉ. ER 8: A Very Low Luminosity Degenerate Star. *María Teresa Ruiz, José Maza, Marina Wischnjewsky, & Luis E. González.* 304, L25, 61-B12 (1986)

IRAS 18059–3211: Optically Known as "Gomez's Hamburger." *María Teresa Ruiz, Victor Blanco, José Maza, Steve Heathcote, Andrew Phillips, Kimiaki Kawara, Claudio Anguita, Mario Hamuy, & Arturo Gómez.* 316, L21, 56-B10 (1987)

ESO 439–162/163: A Common Proper Motion Binary Formed by a Magnetic DQ and a DC Type White Dwarf. *María Teresa Ruiz & José Maza.* 335, L15, 177-B7 (1988)

Calán-Tololo Survey. I. Seyfert 1 Galaxies. *José Maza, María Teresa Ruiz, Luis E. González, & Marina Wischnjewsky.* 69, 349, 6-B1 (1989)

Spectrophotometry of Calán-Tololo Seyfert Galaxies: Objects from List 1. *José Maza & María Teresa Ruiz.* 69, 353, 6-C1 (1989)

MAZEH, T. SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. I. Markarian 279. *D. Maoz, H. Netzer, E. Leibowitz, N. Brosch, A. Laor, H. Mendelson, S. Beck, E. Almoznino, & T. Mazeh.* 351, 75, 39-A5 (1990)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. II. NGC 5548. *H. Netzer, D. Maoz, A. Laor, H. Mendelson, N. Brosch, E. Leibowitz, E. Almoznino, S. Beck, & T. Mazeh.* 353, 108, 63-D7 (1990)

MAZEH, TSEVI. Photometry of SS 433 over 7 Years: Study of Two Periodicities. *Tsevi Mazeh, James C. Kemp, Elia M. Leibowitz, Herbert Meninger, & Haim Mendelson.* 317, 824, 75-A13 (1987)

The Circularized Binaries in Open Clusters: A New Clock for Age Determination. *Robert D. Mathieu & Tsevi Mazeh.* 326, 256, 35-A8 (1988)

MAZURE, A. Peculiar Morphology of the High-Redshift Radio Galaxies 3C 13 and 3C 256 in Subarcsecond Seeing. *O. Le Fèvre, F. Hammer, L. Nottale, A. Mazure, & C. Christian.* 324, L1, 9-A4 (1988)

MAZZALI, PAOLO A. The Ultraviolet Spectrum of Beta Lyrae. *Paolo A. Mazzali.* 65, 695, 39-D1 (1987)

MAZZARELLA, JOSEPH M. A Catalog of Markarian Galaxies. *Joseph M. Mazzarella & Vicki A. Balzano.* 62, 751, 41-B2 (1986)

Multifrequency Observations of the Double-Nucleus Galaxy Markarian 266: Enhanced Synchrotron Emission Induced by a Merger. *Joseph M. Mazzarella, Ralph A. Gaume, Hugh D. Aller, & Philip A. Hughes.* 333, 168, 139-G8 (1988)

The Geometry, Composition, and Mass of the Crab Nebula. *Gordon M. MacAlpine, Stacy S. McGaugh, Joseph M. Mazzarella, & Alan Uomoto.* 342, 364, 105-C10 (1989)

MAZZARO, J. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

MAZZITELLI, I. Evolution from the Main Sequence to the White Dwarf Stage for a 3 $M_{\odot}$ Star. *I. Mazzitelli & F. D'Antona.* 308, 706, 116-F4 (1986)

The Relationship between Initial and Minimum Final White Dwarf Mass for Population I Stars. *I. Mazzitelli & F. D'Antona.* 311, 762, 156-B1 (1986)

The Core Mass at the Helium Flash: Influence of Physical and Numerical Inputs. *I. Mazzitelli.* 340, 249, 70-B6 (1989)

The Fastest Evolving White Dwarfs. *F. D'Antona & I. Mazzitelli.* 347, 934, 195-B7 (1989)

Synthetic Colors and the Chemical Evolution of Elliptical Galaxies. *E. Brocato, F. Matteucci, I. Mazzitelli, & A. Tornambè.* 349, 458, 20-G11 (1990)

MCALARY, C. W. Near-Infrared Observations of Cepheids: The Distance to NGC 300. *Barry F. Madore, Douglas L. Welch, C. W. McAlary, & R. A. McLaren.* 320, 26, 108-C4 (1987)

MCALARY, CHRISTOPHER W. Observations of Upper-Level Hydrogen Lines in Seyfert 1 Galaxies. *Christopher W. McAlary, G. H. Rieke, M. J. Lebofsky, & John T. Stocke.* 301, 105, 15-B4 (1986)

The Distance to M31 from Infrared Photometry of Its Cepheids. *Douglas L. Welch, Christopher W. McAlary, Robert A. McLaren, & Barry F. Madore.* 305, 583, 75-C1 (1986)

Distance Moduli and Structure of the Magellanic Clouds from Near-Infrared Photometry of Classical Cepheids. *Douglas L.*

Welch, Robert A. McLaren, Barry F. Madore, & Christopher W. McAlary. 321, 162, 124-A7 (1987)

A Near-Infrared and Optical Study of X-Ray Selected Seyfert Galaxies. II. Models and Interpretation. *Christopher W. McAlary & G. H. Rieke.* 333, 1, 138-A9 (1988)

McBREEN, B. Multiband Far-Infrared Observations of the NGC 6334 Complex. *L. Loughran, B. McBreen, G. G. Fazio, T. N. Rengarajan, C. W. Maxson, S. Serio, S. Sciortino, & T. P. Ray.* 303, 629, 49-D3 (1986)

McCABE, M. Simultaneous VLA Observations of a Flare at 6 and 20 Centimeter Wavelengths. *T. Velusamy, M. R. Kundu, E. J. Schmahl, & M. McCabe.* 319, 984, 105-F4 (1987)

Plasma Motions in an Emerging Flux Region. *G. E. Brueckner, J.-D. F. Bartoe, J. W. Cook, K. P. Dere, D. Socker, H. Kurokawa, & M. McCabe.* 335, 986, 183-E2 (1988)

McCALL, MARSHALL. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

McCALL, MARSHALL L. Supernovae in Flocculent and Grand Design Spirals. *Marshall L. McCall & Fred H. Schmidt.* 311, 548, 153-G3 (1986)

Portrait of a Novel Nova: V1500 Cygni. *Catherine M. Lance, Marshall L. McCall, & Alan K. Uomoto.* 66, 151, 3-F1 (1988)

Getting to the Bottom of the Lagoon: Dust, Magnetism, and Star Formation. *Marshall L. McCall, Michael G. Richer, & N. Visvanathan.* 357, 502, 118-G1 (1990)

McCAMMON, D. Observations of the Soft X-Ray Diffuse Background at 0.1 keV. *J. J. Bloch, K. Jahoda, M. Juda, D. McCammon, W. T. Sanders, & S. L. Snowden.* 308, L59, 120-F8 (1986)

A Model for the Distribution of Material Generating the Soft X-Ray Background. *S. L. Snowden, D. P. Cox, D. McCammon, & W. T. Sanders.* 354, 211, 76-E7 (1990)

McCAMMON, DAN. The Structure of Galactic H I in Directions of Low Total Column Density. *Felix J. Lockman, Keith Jahoda, & Dan McCammon.* 302, 432, 33-A4 (1986)

Limits on Supernova Rates and Interstellar Densities from X-Ray Observations of M101. *Donald P. Cox & Dan McCammon.* 304, 657, 63-C1 (1986)

Small-Scale H I Structure and the Soft X-Ray Background. *Keith Jahoda, Dan McCammon, & Felix J. Lockman.* 311, L57, 160-C11 (1986)

Galactic H I and the Interstellar Medium in Ursa Major. *Keith Jahoda, Felix J. Lockman, & Dan McCammon.* 354, 184, 76-C1 (1990)

McCANN, S. M. Ne IX Emission-Line Ratios in Solar Active Regions. *F. P. Keenan, D. L. McKenzie, S. M. McCann, & A. E. Kingston.* 318, 926, 91-B2 (1987)

S XV Emission-Line Ratios in the Sun. *S. M. McCann & F. P. Keenan.* 328, 344, 66-A1 (1988)

Argon XV Line Ratios in the Sun. *F. P. Keenan, K. G. Widing, & S. M. McCann.* 338, 563, 39-G1 (1989)

Electron Density Diagnostics of Fe XII in the Solar Plasma. *S. S. Tayal, Ronald J. W. Henry, F. P. Keenan, S. M. McCann, & K. G. Widing.* 343, 1004, 131-E1 (1989)

The $1\,^1S$–$n\,^1P/1\,^1S$–$2\,^1P$ Emission-Line Ratios in Si XIII as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, S. M. McCann, & K. J. H. Phillips.* 363, 310, 186-A5 (1990)

Ne VII Line Ratios in the Sun. *F. P. Keenan, S. M. McCann, & K. G. Widing.* 363, 315, 186-A11 (1990)

McCARTHY, D. D. Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)

McCARTHY, D. W., JR. Direct Infrared Observations of the Very Low Mass Object Gliese 623B. *D. W. McCarthy, Jr., & T. J. Henry.* 319, L93, 107-F3 (1987)

The Very Low Mass Triple System: G208–44AB and G208–45. *D. W. McCarthy, Jr., Todd J. Henry, Thomas A. Fleming, Rex A. Saffer, James Liebert, & Julian C. Christou.* 333, 943, 150-F1 (1988)

A Systematic Search for Brown Dwarfs Orbiting Nearby Stars. *Todd J. Henry & D. W. McCarthy, Jr.* 350, 334, 29-B7 (1990)

McCARTHY, J. K. Evolutionary versus Dynamical Time Scales for the Evolution of the Central Stars of Planetary Nebulae. *J. K. McCarthy, J. R. Mould, R. H. Mendez, R. P. Kudritzki, D. Husfeld, A. Herrero, & H. G. Groth.* 351, 230, 40-G10 (1990)

McCARTHY, JAMES K. Does G29–38 Have a Massive Companion? *James R. Graham, James K. McCarthy, I. Neill Reid, & R. Michael Rich.* 357, L21, 115-D2 (1990)

McCARTHY, P. Discovery of a Probable Binary Quasar. *S. Djorgovski, R. Perley, G. Meylan, & P. McCarthy.* 321, L17, 129-C6 (1987)

McCARTHY, P. J. Stellar Absorption Features in High-Redshift Radio Galaxies. *K. C. Chambers & P. J. McCarthy.* 354, L9, 80-B3 (1990)

McCARTHY, PATRICK. Time-resolved Spectrophotometry of the AM Herculis System E2003+225. *Patrick McCarthy, Stuart Bowyer, & John T. Clarke.* 311, 873, 157-C12 (1986)

Dynamical, Physical, and Chemical Properties of Emission-Line Nebulae in Cooling Flows. *Timothy M. Heckman, Stefi A. Baum, W. J. M. van Breugel, & Patrick McCarthy.* 338, 48, 33-F1 (1989)

McCARTHY, PATRICK J. Extended Lyman-α Emission in 3C 326.1: A 100 Kiloparsec Cloud of Ionized Gas at a Redshift of 1.82. *Patrick J. McCarthy, Hyron Spinrad, S. Djorgovski, Michael A. Strauss, Wil van Breugel, & James Liebert.* 319, L39, 107-B2 (1987)

A Correlation between the Radio and Optical Morphologies of Distant 3 CR Radio Galaxies. *Patrick J. McCarthy, Wil van Breugel, Hyron Spinrad, & S. Djorgovski.* 321, L29, 129-D3 (1987)

Serendipitous Discovery of a Redshift 4.4 QSO. *Patrick J. McCarthy, Mark Dickinson, Alexei V. Filippenko, Hyron Spinrad, & Wil J. M. van Breugel.* 328, L29, 74-C9 (1988)

C_2 in Comet Halley: Evidence for Its Being Third Generation and Resolution of the Vibrational Population Discrepancy. *C. R. O'Dell, Ronald R. Robinson, K. S. Krishna Swamy, Patrick J. McCarthy, & Hyron Spinrad.* 334, 476, 160-B1 (1988)

Light Echoes and Transient Luminescence near SN 1987A. *Arlin P. S. Crotts, William E. Kunkel, & Patrick J. McCarthy.* 347, L61, 199-B5 (1989)

Extended Lyα Emission Associated with 3C 294. *Patrick J. McCarthy, Hyron Spinrad, Wil van Breugel, James Liebert, Mark Dickinson, S. Djorgovski, & Peter Eisenhardt.* 365, 487, 214-B9 (1990)

McCAUGHREAN, M. J. Discovery of a Reflection Dust Envelope around IRC +10216. *M. Tamura, T. Hasegawa, N. Ukita, I. Gatley, I. S. McLean, M. G. Burton, J. T. Rayner, & M. J. McCaughrean.* 326, L17, 38-B9 (1988)

McCLINTOCK, J. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

4U 1626–67: The Binary with the Smallest Known Mass Function. *A. Levine, C. P. Ma, J. McClintock, S. Rappaport, M. van der Klis, & F. Verbunt.* 327, 732, 56-E14 (1988)

McCLINTOCK, J. E. H0538+608: A Bright AM Herculis–Type X-Ray Source. *R. A. Remillard, H. V. Bradt, J. E. McClintock, J. Patterson, W. Roberts, D. A. Schwartz, & S. Tapia.* 302, L11, 35-A13 (1986)

McCLINTOCK, JEFFREY E. The Black Hole Binary A0620–00. *Jeffrey E. McClintock & Ronald A. Remillard.* 308, 110, 109-C5 (1986)

Optical Observations of the X-Ray Binary V1727 Cygni (=4U 2129+47) during a Low State: Some Unexpected Results. *John R. Thorstensen, Kenneth R. Brownsberger, Delo E. Mook, The Off-Campus Program Students, Ronald A. Remillard, Jeffrey E. McClintock, David C. Koo, & Philip A. Charles.* 334, 430, 159-E1 (1988)

Is GX 1+4 the Compact 511 keV Galactic Center Source? *Jeffrey E. McClintock & Marvin Leventhal.* 346, 143, 167-G6 (1989)

The X-Ray Nova Centaurus X-4: Comparisons with A0620–00. *Jeffrey E. McClintock & Ronald A. Remillard.* 350, 386, 29-F11 (1990)

McCLINTOCK, WILLIAM E. High-Resolution Sounding Rocket Observations of Interstellar H_2 Lines toward δ Scorpii. *Theodore P. Snow, William E. McClintock, & Stephen A. Voels.* 325, 402, 23-E9 (1988)

McCLURE, R. D. The Intrinsic Frequency of Faint Supernovae Resembling SN 1987A. *Sidney van den Bergh & R. D. McClure.* 347, L29, 189-D7 (1989)

McCLURE, ROBERT D. Mass Functions for Globular Cluster Main Sequences Based on CCD Photometry and Stellar Models. *Robert D. McClure, Don A. VandenBerg, Graeme H. Smith, Gregory G. Fahlman, Harvey B. Richer, James E. Hesser, William E. Harris, Peter B. Stetson, & R. A. Bell.* 307, L49, 107-B10 (1986)

Chemical Enrichment of Halo Protoclusters with Differing Stellar Mass Functions. *Graeme H. Smith & Robert D. McClure.* 316, 206, 52-C3 (1987)

Chemical Enrichment of Halo Protoclusters with Differing Stellar Mass Functions: Erratum. *Graeme H. Smith & Robert D. McClure.* 322, 1074, 151-F12 (1987) (Orig. paper in 316, 206, 52-C3 (1987))

The Supernova Rate in Shapley-Ames Galaxies. *Sidney van den Bergh, Robert D. McClure, & Robert Evans.* 323, 44, 153-E4 (1987)

Revised Supernova Rates in Shapley-Ames Galaxies. *Robert Evans, Sidney van den Bergh, & Robert D. McClure.* 345, 752, 160-B1 (1989)

The Binary Nature of the Barium and CH Stars. III. Orbital Parameters. *Robert D. McClure & A. W. Woodsworth.* 352, 709, 59-G1 (1990)

Supernova Rates and Galaxy Inclinations. *Sidney van den Bergh & Robert D. McClure.* 359, 277, 139-D13 (1990)

McCLUSKEY, GEORGE E., JR. *IUE* Observations of V Sagittae. *Robert H. Koch, Michael F. Corcoran, Bruce D. Holenstein, & George E. McCluskey, Jr.* 306, 618, 91-C10 (1986)

IUE Spectroscopy of U Cephei during the Mass Flow Outburst of 1986 June. *George E. McCluskey, Jr., Yoji Kondo, & Edward C. Olson.* 332, 1019, 135-F1 (1988)

McCLYMONT, A. N. The Solar Flare Extreme Ultraviolet to Hard X-Ray Ratio. *A. N. McClymont & Richard C. Canfield.* 305, 936, 79-C1 (1986)

Quasi-steady Mass Flows in Coronal Loops. *I. J. D. Craig & A. N. McClymont.* 307, 367, 99-B6 (1986)

Beam-induced Pressure Gradients in the Early Phase of Proton-heated Solar Flares. *David H. Tamres, Richard C. Canfield, & A. N. McClymont.* 309, 409, 124-C14 (1986)

Fast Downflows in the Solar Transition Region Explained. *A. N. McClymont & I. J. D. Craig.* 312, 402, 5-C2 (1987)

Why Coronal Loops Cannot Exist without Solar Gravity. *I. J. D. Craig & A. N. McClymont.* 318, 421, 83-E5 (1987)

General Methods for Determining the Linear Stability of Coronal Magnetic Fields. *I. J. D. Craig, A. N. McClymont, & A. D. Sneyd.* 335, 441, 175-E7 (1988)

McCLYMONT, ALEXANDER N. Can Cool Loop Flows Explain "Transition Region" Redshifts? *Alexander N. McClymont.* 347, L47, 189-F1 (1989)

McCOMB, T. J. L. SN 1987A: Limits to 400 GeV Gamma-Ray Emission. *P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, S. M. Rayner, K. J. Orford, K. E. Turver, & D. G. Williams.* 333, L19, 144-B11 (1988)

300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)

New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989))

McCONNELL, M. L. Gamma-Ray Observations of the Crab Region Using a Coded-Aperture Telescope. *M. L. McConnell, P. P. Dunphy, D. J. Forrest, E. L. Chupp, & A. Owens.* 321, 543, 128-A13 (1987)

Gamma-Ray Observations of Cygnus X-1 and Cygnus X-3 Using a Coded-Aperture Telescope. *M. L. McConnell, D. J. Forrest, A. Owens, P. P. Dunphy, W. T. Vestrand, & E. L. Chupp.* 343, 317, 122-B2 (1989)

McCOOK, G. P. Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)

McCOOK, GEORGE P. A Catalog of Spectroscopically Identified White Dwarfs. *George P. McCook & Edward M. Sion.* 65, 603, 37-E2 (1987)

McCORQUODALE, P. Stellar Reaction Rates of Alpha Capture on Light ($N \neq Z$) Nuclei and Their Astrophysical Implications. *L. Buchmann, J. M. D'Auria, & P. McCorquodale.* 324, 953, 14-A6 (1988)

McCOWAGE, C. Speckle Interferometry of SN 1987A up to One Year after Explosion. *P. R. Wood, P. E. J. Nulsen, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 339, 1073, 65-A1 (1989)

Speckle Interferometry of SN 1987A: Final Measurements. *P. E. J. Nulsen, P. R. Wood, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 358, 266, 125-D6 (1990)

McCRAY, R. Molecules in the Ejecta of SN 1987A. *S. Lepp, A. Dalgarno, & R. McCray.* 358, 262, 125-D1 (1990)

McCRAY, RICHARD. Supershells and Propagating Star Formation. *Richard McCray & Minas Kafatos.* 317, 190, 66-B1 (1987)

Rapid Variability of P Cygni Lines in Massive X-Ray Binaries. *Timothy R. Kallman, Richard McCray, & G. Mark Voit.* 317, 746, 74-B12 (1987)

Inside Supernova 1987A. *Richard McCray, J. Michael Shull, & Peter Sutherland.* 317, L73, 78-C7 (1987)

Superbubbles in Disk Galaxies. *Mordecai-Mark Mac Low & Richard McCray.* 324, 776, 11-G9 (1988)

X-Rays from Supernova 1987A. *Yueming Xu, Peter Sutherland, Richard McCray, & Randy R. Ross.* 327, 197, 49-B5 (1988)

Bow Shocks and Bubbles Are Seen around Hot Stars by *IRAS*. *Dave Van Buren & Richard McCray.* 329, L93, 9-E1 (1988)

Superbubble Blowout Dynamics. *Mordecai-Mark Mac Low, Richard McCray, & Michael L. Norman.* 337, 141, 19-A1 (1989)

X-Rays from Colliding Stellar Winds. *Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 362, 267, 172-E1 (1990)

McCREIGHT, C. R. Structure in the Nucleus of NGC 1068 at 10 Microns. *R. Tresch-Fienberg, G. G. Fazio, D. Y. Gezari, W. F. Hoffmann, G. M. Lamb, P. K. Shu, & C. R. McCreight.* 312, 542, 8-G2 (1987)

McCULLOCH, P. M. Observation of the Vela Pulsar, PSR 0833–45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

McCULLOUGH, P. R. Location and Phase of Dust Formation in IRC +10216 Indicated by 11 Micron Spatial Interferometry. *W. C. Danchi, M. Bester, C. G. Degiacomi, P. R. McCullough, & C. H. Townes.* 359, L59, 144-C10 (1990)

McCUTCHEON, W. H. The Lynds 204 Complex: Magnetic Field Controlled Evolution? *W. H. McCutcheon, F. J. Vrba, R. L. Dickman, & D. P. Clemens.* 309, 619, 128-A11 (1986)

Milliarcsecond Observations of 12 GHz Methanol Masers. *W. H. McCutcheon, K. J. Wellington, R. P. Norris, J. L. Caswell, M. J. Kesteven, J. E. Reynolds, & R.-S. Peng.* 333, L79, 152-E11 (1988)

McDERMOTT, P. N. Oscillation Spectra of Neutron Stars with Strong Magnetic Fields. *B. W. Carroll, E. G. Zweibel, C. J. Hansen, P. N. McDermott, M. P. Savedoff, J. H. Thomas, & H. M. Van Horn.* 305, 767, 77-C9 (1986)

The Formation and Evolution of Tidal Binary Systems. *Stephen L. W. McMillan, P. N. McDermott, & Ronald E. Taam.* 318, 261, 81-F11 (1987)

Nonradial *g*-Mode Oscillations in X-Ray Bursting Neutron Stars. *P. N. McDermott & Ronald E. Taam.* 318, 278, 82-A1 (1987)
A Dynamical Instability Model for the Period Gap of Cataclysmic Variable Binary Systems. *Ronald E. Taam & P. N. McDermott.* 319, L83, 107-E8 (1987)
Nonradial Oscillations of Neutron Stars. *P. N. McDermott, H. M. Van Horn, & C. J. Hansen.* 325, 725, 28-D13 (1988)
Evolution of Low-Mass Close Binary Systems. *P. N. McDermott, Ronald E. Taam, & F. A. Ringwald.* 328, 617, 69-G9 (1988)
On the Disrupted Magnetic Braking Model for the Period Gap of Cataclysmic Variables. *P. N. McDermott & Ronald E. Taam.* 342, 1019, 114-G7 (1989)
On the Formation of Red Giant Binaries by Tidal Capture. *Stephen L. W. McMillan, Ronald E. Taam, & P. N. McDermott.* 354, 190, 76-C9 (1990)
McDONALD, F. B. The Composition of Solar Energetic Particles. *R. E. McGuire, T. T. von Rosenvinge, & F. B. McDonald.* 301, 938, 26-A3 (1986)
The Charge State of the Anomalous Cosmic-Ray Component. *F. B. McDonald, N. Lal, J. S. Perko, T. T. von Rosenvinge, & W. R. Webber.* 333, L109, 153-A1 (1988)
Solar Energetic Particle Observations of the 1982 June 3 and 1980 June 21 Gamma-Ray/Neutron Events. *M. A. I. Van Hollebeke, F. B. McDonald, & J. P. Meyer.* 73, 285, 21-F1 (1990)
McDOWELL, JONATHAN C. Spectral Distortions of the Cosmic Microwave Background. *Fred C. Adams, Katherine Freese, Janna Levin, & Jonathan C. McDowell.* 344, 24, 133-C9 (1989)
Weak Bump Quasars. *Jonathan C. McDowell, Martin Elvis, Belinda J. Wilkes, Steven P. Willner, M. S. Oey, Elisha Polomski, Jill Bechtold, & Richard F. Green.* 345, L13, 157-B5 (1989)
McELROY, DOUGLAS B. The Shape of the Dark Halo in Polar-Ring Galaxies. *Bradley C. Whitmore, Douglas B. McElroy, & François Schweizer.* 314, 439, 34-C9 (1987)
McFADDEN, LUCY-ANN. The Bare Nucleus of Comet Neujmin 1. *Humberto Campins, Michael F. A'Hearn, & Lucy-Ann McFadden.* 316, 847, 61-D1 (1987)
McGAUGN, STACY S. The Geometry, Composition, and Mass of the Crab Nebula. *Gordon M. MacAlpine, Stacy S. McGaugn, Joseph M. Mazzarella, & Alan Uomoto.* 342, 364, 105-C10 (1989)
McGILL, COLIN. Detecting Clusters in Galaxy Catalogs. *Colin McGill & H. M. P. Couchman.* 364, 426, 201-C7 (1990)
McGINN, M. T. Stellar Kinematics in the Galactic Center. *M. T. McGinn, K. Sellgren, E. E. Becklin, & D. N. B. Hall.* 338, 824, 44-B7 (1989)
Velocity Dispersion and the Stellar Population in the Central 1.2 Parsecs of the Galaxy. *K. Sellgren, M. T. McGinn, E. E. Becklin, & D. N. B. Hall.* 359, 112, 135-D9 (1990)
McGLYNN, THOMAS A. X-Ray Studies of Galactic and Intergalactic Gas in the Pegasus I Cluster. *Claude R. Canizares, Megan E. Donahue, Ginevra Trinchieri, Gordon C. Stewart, & Thomas A. McGlynn.* 304, 312, 57-C13 (1986)
On the Nondetection of Extrasolar Comets. *Thomas A. McGlynn & Robert D. Chapman.* 346, L105, 181-F2 (1989)
Remnants of Strong Tidal Interactions. *Thomas A. McGlynn.* 348, 515, 9-A10 (1990)
McGONAGLE, D. Detection of Nitric Oxide in the Dark Cloud L134N. *D. McGonagle, L. M. Ziurys, W. M. Irvine, & Y. C. Minh.* 359, 121, 135-E5 (1990)
Observations of H_2S toward OMC-1. *Y. C. Minh, L. M. Ziurys, W. M. Irvine, & D. McGonagle.* 360, 136, 146-F9 (1990)
McGRAW, J. T. A Spectroscopically Predicted New ZZ Ceti Variable: GD 165. *P. Bergeron & J. T. McGraw.* 352, L45, 61-C11 (1990)
McGREGOR, P. J. Comparison of 2.1 and 3.8 Micron Line Profiles of Shocked H_2 in the Orion Molecular Cloud. *T. R. Geballe, S. E. Persson, Theodore Simon, Carol J. Lonsdale, & P. J. McGregor.* 302, 693, 38-C1 (1986)
Atomic and Molecular Line Emission from Early-Type High-Luminosity Stars. *P. J. McGregor, A. R. Hyland, & D. J. Hillier.* 324, 1071, 15-C7 (1988)
The Extraordinary Mass-Loss Bubble G2.4+1.4 and Its Central Star. *M. A. Dopita, T. A. Lozinskaya, P. J. McGregor, & S. J. Rawlings.* 351, 563, 47-B1 (1990)
McGREGOR, PETER J. Images of Star-forming Regions. I. Optical and Radio Morphology of the Bipolar Outflow Source GL 490. *Bel Campbell, S. E. Persson, & Peter J. McGregor.* 305, 336, 70-F14 (1986)
CO Band Synthesis and the Interpretation of Band Strengths in Magellanic Cloud Supergiants. *Peter J. McGregor.* 312, 195, 3-B2 (1987)
High Spatial and Spectral Resolution Observations of the Optical Counterparts of GL 490 and S106/IRS 3. *S. E. Persson, Peter J. McGregor, & Bel Campbell.* 326, 339, 36-A1 (1988)
Far-Infrared Emission from the AG Carinae Ring. *Peter J. McGregor, Keith Finlayson, A. R. Hyland, Marshall Joy, Paul M. Harvey, & Dan F. Lester.* 329, 874, 86-E12 (1988)
CO Overtone Emission from Magellanic Cloud Supergiants. *Peter J. McGregor, D. J. Hillier, & A. R. Hyland.* 334, 639, 163-D4 (1988)
The Centers of Star Formation in NGC 6334 and Their Stellar Mass Distributions. *Steven M. Straw, A. R. Hyland, & Peter J. McGregor.* 69, 99, 2-C1 (1989)
McGUIRE, R. E. Two Classes of Solar Energetic Particle Events Associated with Impulsive and Long-Duration Soft X-Ray Flares. *H. V. Cane, R. E. McGuire, & T. T. von Rosenvinge.* 301, 448, 18-F9 (1986)
The Composition of Solar Energetic Particles. *R. E. McGuire, T. T. von Rosenvinge, & F. B. McDonald.* 301, 938, 26-A3 (1986)
Solar Filament Eruptions and Energetic Particle Events. *S. W. Kahler, E. W. Cliver, H. V. Cane, R. E. McGuire, R. G. Stone, & N. R. Sheeley, Jr.* 302, 504, 33-F9 (1986)
Solar Flare Nuclear Gamma Rays and Interplanetary Proton Events. *E. W. Cliver, D. J. Forrest, H. V. Cane, D. V. Reames, R. E. McGuire, T. T. von Rosenvinge, S. R. Kane, & R. J. MacDowall.* 343, 953, 131-A1 (1989)
McHARDY, I. An X-Ray and Radio Study of Steep-Spectrum Radio Sources. I. Four Fields from the Clark Lake Observatory 26 MHz Survey. *D. E. Harris, P. E. Dewdney, C. H. Costain, I. McHardy, & A. G. Willis.* 325, 610, 27-C2 (1988)
Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)
McHARDY, IAN. Is Optical Fe II Emission Related to the Soft X-Ray Properties of Quasars? *Belinda J. Wilkes, Martin Elvis, & Ian McHardy.* 321, L23, 129-C12 (1987)
McINTOSH, G. C. VLBI and Polarimetric Observations of the SiO Masers in R Cassiopeiae. *G. C. McIntosh, C. R. Predmore, J. M. Moran, L. J. Greenhill, A. E. E. Rogers, & R. Barvainis.* 337, 934, 30-D9 (1989)
McKAY, DOUGLAS W. Has Dark Matter Decay Been Detected? *Adrian L. Melott, Douglas W. McKay, & John P. Ralston.* 324, L43, 18-B1 (1988)
McKEAN, M. E. Modeling Solar Flare Conduction Fronts. I. Homogeneous Plasmas and Ion-acoustic Turbulence. *M. E. McKean, R. M. Winglee, & G. A. Dulk.* 364, 295, 197-F5 (1990)
Modeling Solar Flare Conduction Fronts. II. Inhomogeneous Plasmas and Ambipolar Electric Fields. *M. E. McKean, R. M. Winglee, & G. A. Dulk.* 364, 302, 197-G1 (1990)
McKEE, CHRISTOPHER F. Compton-heated Winds and Coronae above Accretion Disks. III. Instability and Oscillations. *G. A. Shields, Christopher F. McKee, D. N. C. Lin, & Mitchell C. Begelman.* 306, 90, 82-C3 (1986)
The Structure of Time-dependent Interstellar Shocks and Grain Destruction in the Interstellar Medium. *Christopher F. McKee, David J. Hollenbach, C. Gregory Seab, & A. G. G. M. Tielens.* 318, 674, 88-C7 (1987)
Shock Processing of Interstellar Dust: Diamonds in the Sky. *A. G. G. M. Tielens, C. G. Seab, D. J. Hollenbach, & Christopher F. McKee.* 319, L109, 107-G6 (1987)
Radio Recombination Lines from Fast Shocks in Molecular Clouds, with Application to Bipolar Flows. *Christopher F. McKee & David J. Hollenbach.* 322, 275, 140-G7 (1987)
Fermi Acceleration of Lyman-Alpha Photons by Shocks. *David A. Neufeld & Christopher F. McKee.* 331, L87, 121-E3 (1988)

Dynamics of Radiative Supernova Remnants. *Denis F. Cioffi, Christopher F. McKee, & Edmund Bertschinger.* 334, 252, 157-B5 (1988)

Two-Temperature Radiative Shocks with Electron Thermal Conduction. *Kazimierz J. Borkowski, J. Michael Shull, & Christopher F. McKee.* 336, 979, 14-F1 (1989)

Molecule Formation and Infrared Emission in Fast Interstellar Shocks. III. Results for *J* Shocks in Molecular Clouds. *David Hollenbach & Christopher F. McKee.* 342, 306, 104-F2 (1989)

Photoionization-regulated Star Formation and the Structure of Molecular Clouds. *Christopher F. McKee.* 345, 782, 160-D7 (1989)

H_2O Masers in Star-forming Regions. *Moshe Elitzur, David J. Hollenbach, & Christopher F. McKee.* 346, 983, 179-D1 (1989)

Constraints on a Hot Intergalactic Medium from the X-Ray and Submillimeter Backgrounds. *Ofer Lahav, Abraham Loeb, & Christopher F. McKee.* 349, L9, 19-B6 (1990)

Dynamics of Adiabatic Blast Waves in Media of Finite Mass. *Bon-Chul Koo & Christopher F. McKee.* 354, 513, 82-F11 (1990)

The Photoevaporation of Interstellar Clouds. II. Equilibrium Cometary Clouds. *Frank Bertoldi & Christopher F. McKee.* 354, 529, 83-A1 (1990)

Global Effects of Thermal Conduction on Two-Phase Media. *Mitchell C. Begelman & Christopher F. McKee.* 358, 375, 128-C1 (1990)

Steady Evaporation and Condensation of Isolated Clouds in Hot Plasma. *Christopher F. McKee & Mitchell C. Begelman.* 358, 392, 128-D6 (1990)

McKEE, S. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

McKEEGAN, K. D. ^{16}O Excesses in Murchison and Murray Hibonites: A Case against a Late Supernova Injection Origin of Isotopic Anomalies in O, Mg, Ca, and Ti. *A. J. Fahey, J. N. Goswami, K. D. McKeegan, & E. K. Zinner.* 323, L91, 158-G5 (1987)

McKEEGAN, KEVIN D. Large ^{48}Ca Anomalies Are Associated with ^{50}Ti Anomalies in Murchison and Murray Hibonites. *Ernst K. Zinner, Albert J. Fahey, Jitendra N. Goswami, Trevor R. Ireland, & Kevin D. McKeegan.* 311, L103, 160-G1 (1986)

McKELLAR, A. R. W. Experimental Verification of Hydrogen Dimers in the Atmospheres of Jupiter and Saturn from *Voyager* IRIS Far-Infrared Spectra. *A. R. W. McKellar.* 326, L75, 46-D1 (1988)

McKENZIE, D. L. The Derivation of Solar Coronal Electron Temperature from the $1\,^1S$–$n\,^1P/1^1S$–2^1P Emission-Line Ratios in Mg XI. *F. P. Keenan, A. E. Kingston, & D. L. McKenzie.* 303, 486, 46-D4 (1986)

Ne IX Emission-Line Ratios in Solar Active Regions. *F. P. Keenan, D. L. McKenzie, S. M. McCann, & A. E. Kingston.* 318, 926, 91-B2 (1987)

Properties of Solar Coronal Active Regions Deduced from X-Ray Line Spectra. *D. L. McKenzie.* 322, 512, 143-E5 (1987)

Dynamic Evolution of the Source Volumes of Gradual and Impulsive Solar Flare Emissions. *M. E. Bruner, C. J. Crannell, F. Goetz, A. Magun, & D. L. McKenzie.* 334, 494, 160-C6 (1988)

High-Resolution X-Ray Spectra of Solar Flares. IX. Mass Upflow in the Long-Duration Flare of 1979 June 5. *G. A. Doschek, U. Feldman, J. F. Seely, & D. L. McKenzie.* 345, 1079, 164-A1 (1989)

McKENZIE, J. F. Stability of a Cometary Ionosphere/Ionopause Determined by Ion-Neutral Friction. *A. I. Ershkovich, J. F. McKenzie, & W. I. Axford.* 344, 932, 145-F2 (1989)

Stability of a Cometary Ionosphere/Ionopause Including Pressure Effects. *J. F. McKenzie, A. I. Ershkovich, & W. I. Axford.* 360, 275, 148-D5 (1990)

McKINNON, WILLIAM B. On the Origin of the Pluto-Charon Binary. *William B. McKinnon.* 344, L41, 140-D7 (1989)

On the Origin of the Pluto-Charon Binary: Erratum. *William B. McKinnon.* 346, L109, 181-F6 (1989) (Orig. paper in 344, L41, 140-D7 (1989))

McLAREN, R. A. Near-Infrared Observations of Cepheids: The Distance to NGC 300. *Barry F. Madore, Douglas L. Welch, C. W. McAlary, & R. A. McLaren.* 320, 26, 108-C4 (1987)

High Spatial Resolution 10 Micron Imaging of IRC +10216. *E. E. Bloemhof, W. C. Danchi, C. H. Townes, & R. A. McLaren.* 333, 300, 141-D2 (1988)

McLAREN, ROBERT A. The Distance to M31 from Infrared Photometry of Its Cepheids. *Douglas L. Welch, Christopher W. McAlary, Robert A. McLaren, & Barry F. Madore.* 305, 583, 75-C1 (1986)

Distance Moduli and Structure of the Magellanic Clouds from Near-Infrared Photometry of Classical Cepheids. *Douglas L. Welch, Robert A. McLaren, Barry F. Madore, & Christopher W. McAlary.* 321, 162, 124-A7 (1987)

Structure of Scintillations in Neptune's Occultation Shadow. *W. B. Hubbard, Emmanuel Lellouch, Bruno Sicardy, André Brahic, Faith Vilas, Patrice Bouchet, Robert A. McLaren, & C. Perrier.* 325, 490, 24-E6 (1988)

McLAUGHLIN, STEVEN F. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wiśniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

McLEAN, A. D. A Reanalysis of the HCO^+/HOC^+ Abundance Ratio in Dense Interstellar Clouds. *Martin F. Jarrold, Michael T. Bowers, D. J. DeFrees, A. D. McLean, & Eric Herbst.* 303, 392, 45-D6 (1986)

Ab Initio Molecular Orbital Studies of Low-Energy, Metastable Isomers of the Ubiquitous Cyclopropenylidene. *D. J. DeFrees & A. D. McLean.* 308, L31, 113-G10 (1986)

Collisional Excitation of Interstellar Cyclopropenylidene. *Sheldon Green, D. J. DeFrees, & A. D. McLean.* 65, 175, 29-F11 (1987)

A Detailed Investigation of Proposed Gas-Phase Syntheses of Ammonia in Dense Interstellar Clouds. *Eric Herbst, D. J. DeFrees, & A. D. McLean.* 321, 898, 134-D1 (1987)

Collisional Excitation of Interstellar Waters. *Amedeo Palma, Sheldon Green, D. J. DeFrees, & A. D. McLean.* 68, 287, 27-C7 (1988)

Collisional Excitation of Interstellar Water: Addendum. *A. Palma, S. Green, D. J. DeFrees, & A. D. McLean.* 70, 681, 28-A9 (1989) (Orig. paper in 68, 287, 27-C7 (1988))

McLEAN, B. J. Radio Emission from FK Comae. *V. A. Hughes & B. J. McLean.* 313, 263, 17-G5 (1987)

Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)

A 20 Centimeter Survey of Compact Sources in the Northern Galactic Plane. *R. H. Becker, R. L. White, B. J. McLean, D. J. Helfand, & S. Zoonematkermani.* 358, 485, 129-E10 (1990)

McLEAN, I. A *K* Band Deep Galaxy Survey. *L. L. Cowie, J. P. Gardner, S. J. Lilly, & I. McLean.* 360, L1, 149-B2 (1990)

McLEAN, I. S. Discovery of a Reflection Dust Envelope around IRC +10216. *M. Tamura, T. Hasegawa, N. Ukita, I. Gatley, I. S. McLean, M. G. Burton, J. T. Rayner, & M. J. McCaughrean.* 326, L17, 38-B9 (1988)

A Cosmologically Significant Population of Galaxies Dominated by Very Young Star Formation. *L. L. Cowie, S. J. Lilly, J. Gardner, & I. S. McLean.* 332, L29, 129-D7 (1988)

The Infrared Protogalaxy Candidate in SA 57: A Low-Redshift Elliptical Galaxy. *S. J. Lilly, J. P. Gardner, L. L. Cowie, & I. S. McLean.* 332, L59, 137-C1 (1988)

A Luminous Cool Component in the Protogalaxy Candidate 3C 326.1. *S. J. Lilly & I. S. McLean.* 346, L65, 181-C2 (1989)

The Exciting Star in G35.2N. *D. M. Walther, C. Aspin, & I. S. McLean.* 356, 544, 107-A11 (1990)

McLEAN, IAN S. Infrared Images of Ionized and Molecular Hydrogen Emission in S106. *Saeko S. Hayashi, Tetsuo Hasegawa, Masuo Tanaka, Masahiko Hayashi, Colin Aspin, Ian S. McLean, Peter W. J. L. Brand, & Ian Gatley.* 354, 242, 77-B2 (1990)

McLEOD, C. P. The 160 Minute Solar Oscillation: An Artifact? *Y. P. Elsworth, S. M. Jefferies, C. P. McLeod, R. New, P. L. Pallé, H. B. van der Raay, C. Régulo, & T. Roca Cortés.* 338, 557, 39-F7 (1989)

McLEOD, NORMAN W., III. The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J.*

Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney. 320, 398, 112-D2 (1987)

McMAHAN, ROBERT K. Spectroscopy of the DA White Dwarfs: Automatic Atmospheric Parameterization and Mass Distribution. *Robert K. McMahan.* 336, 409, 6-C4 (1989)

McMAHON, RICHARD. QSOs with Narrow Emission Lines. *J. A. Baldwin, Richard McMahon, C. Hazard, & R. E. Williams.* 327, 103, 48-B5 (1988)

McMAHON, RICHARD G. The Remarkable Broad Absorption Line QSO 0059−2735 with Extensive Fe II Absorption. *C. Hazard, Richard G. McMahon, John K. Webb, & Donald C. Morton.* 323, 263, 156-A1 (1987)

Detection of Dust in Damped Lyman-Alpha Systems. *S. Michael Fall, Yichuan C. Pei, & Richard G. McMahon.* 341, L5, 91-A10 (1989)

An Optical Counterpart of the Giant H I Cloud H I 1225+0146. *Richard G. McMahon, Michael J. Irwin, Riccardo Giovanelli, Martha P. Haynes, Arthur M. Wolfe, & C. Hazard.* 359, 302, 139-G1 (1990)

McMILLAN, R. S. Evidence for Periodic Radial Velocity Variations in Arcturus. *P. H. Smith, R. S. McMillan, & W. J. Merline.* 317, L79, 78-C12 (1987)

McMILLAN, S. L. W. Numerical Simulations of Adiabatic Axisymmetric Accretion Flow. I. A New Mechanism for the Formation of Jets. *B. A. Fryxell, Ronald E. Taam, & S. L. W. McMillan.* 315, 536, 46-E5 (1987)

Do the Major Axes of Rich Clusters of Galaxies Point toward Their Neighbors? *M. P. Ulmer, S. L. W. McMillan, & M. P. Kowalski.* 338, 711, 42-F1 (1989)

X-Ray Morphologies of Abell Clusters. *S. L. W. McMillan, M. P. Kowalski, & M. P. Ulmer.* 70, 723, 29-E1 (1989)

McMILLAN, STEPHEN L. W. Triple Interactions Involving Close Binaries in Globular Clusters. *Stephen L. W. McMillan.* 306, 552, 90-E10 (1986)

A Unified *N*-Body and Statistical Treatment of Stellar Dynamics. III. Early Postcollapse Evolution of Globular Clusters. *Stephen L. W. McMillan.* 307, 126, 96-D6 (1986)

The Formation and Evolution of Tidal Binary Systems. *Stephen L. W. McMillan, P. N. McDermott, & Ronald E. Taam.* 318, 261, 81-F11 (1987)

On the Formation of Red Giant Binaries by Tidal Capture. *Stephen L. W. McMillan, Ronald E. Taam, & P. N. McDermott.* 354, 190, 76-C9 (1990)

McMILLAN, STEVE. Star Cluster Evolution with Primordial Binaries. I. A Comparative Study. *Steve McMillan, Piet Hut, & Junichiro Makino.* 362, 522, 177-C1 (1990)

McNAMARA, BERNARD. Rotation in Moderate-Mass Pre–Main-Sequence Radiative Track G Stars. *Bernard McNamara.* 350, 348, 29-C9 (1990)

McNAMARA, BERNARD J. An Internal Motion Analysis of the Open Cluster M35. *Bernard J. McNamara & Kazuhiro Sekiguchi.* 310, 613, 140-E4 (1986)

Light Variability among the Late-Type B Pleiades Stars. *Bernard J. McNamara.* 312, 778, 11-D7 (1987)

McNAMARA, BRIAN R. Pre–Main-Sequence Stars in the Young Cluster IC 2391. *John Stauffer, Lee W. Hartmann, Burton F. Jones, & Brian R. McNamara.* 342, 285, 104-D3 (1989)

Pre–Main-Sequence Stars in the Young Cluster IC 2391: Erratum. *John Stauffer, Lee W. Hartmann, Burton F. Jones, & Brian R. McNamara.* 350, 480, 30-G5 (1990) (Orig. paper in 342, 285, 104-D3 (1989))

Infrared Emission from Central Dominant Galaxies in X-Ray Luminous Clusters. *Joel N. Bregman, Brian R. McNamara, & Robert W. O'Connell.* 351, 406, 45-B1 (1990)

H I Absorption toward Cooling Flows in Clusters of Galaxies. *Brian R. McNamara, Joel N. Bregman, & Robert W. O'Connell.* 360, 20, 145-C9 (1990)

McNEIL, RAYMOND C. The Perkins Catalog of Revised MK Types for the Cooler Stars. *Philip C. Keenan & Raymond C. McNeil.* 71, 245, 38-D1 (1989)

McNIEL, RUSS. The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)

McTIERNAN, JAMES M. The Behavior of Beams of Relativistic Nonthermal Electrons under the Influence of Collisions and Synchrotron Losses. *James M. McTiernan & Vahé Petrosian.* 359, 524, 142-E4 (1990)

The Hard X-Rays and Gamma Rays from Solar Flares. *James M. McTiernan & Vahé Petrosian.* 359, 541, 142-F9 (1990)

McWATTERS, RICHARD. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

McWHIRTER, R. W. P. Radiating Properties of Solar Plasmas. *M. E. Bruner & R. W. P. McWhirter.* 326, 1002, 44-E7 (1988)

McWILLIAM, ANDREW. Isotopic Abundances of Magnesium in the Metal-poor Subgiant ν Indi. *David L. Lambert & Andrew McWilliam.* 304, 436, 58-E11 (1986)

Neutron-Exposure Variations in MS and S Stars, and the Implications for *s*-Process Nucleosynthesis. *Verne V. Smith, David L. Lambert, & Andrew McWilliam.* 320, 862, 119-C3 (1987)

High-Resolution Spectroscopic Survey of 671 GK Giants. I. Stellar Atmosphere Parameters and Abundances. *Andrew McWilliam.* 74, 1075, 45-G9 (1990)

MEABURN, JOHN. Observations and Shock Models of the Jet and Herbig-Haro Objects HH 46/47. *Patrick Hartigan, John Raymond, & John Meaburn.* 362, 624, 178-E1 (1990)

MEAD, KATHRYN N. Molecular Clouds in the Outer Galaxy. I. Far-Infrared Observations. *Kathryn N. Mead, Marc L. Kutner, Neal J. Evans II, Paul M. Harvey, & Bruce A. Wilking.* 312, 321, 4-D4 (1987)

Molecular Clouds in the Outer Galaxy. II. CO Maps of Individual Clouds. *Kathryn N. Mead.* 67, 149, 13-A1 (1988)

Molecular Clouds in the Outer Galaxy. III. CO Studies of Individual Clouds. *Kathryn N. Mead & Marc L. Kutner.* 330, 399, 94-F3 (1988)

Molecular Clouds in the Outer Galaxy. IV. Studies of Star Formation. *Kathryn N. Mead, Marc L. Kutner, & Neal J. Evans II.* 354, 492, 82-E1 (1990)

MEADE, M. R. R Coronae Borealis Dust Ejections: A Preferred Plane? *S. A. Stanford, G. C. Clayton, M. R. Meade, K. H. Nordsieck, B. A. Whitney, M. A. Murison, M. A. Nook, & C. M. Anderson.* 325, L9, 25-A14 (1988)

MEAKES, MICHAEL G. Discovery of an Inner Light-Echo Ring around SN 1987A. *Howard E. Bond, Roberto Gilmozzi, Michael G. Meakes, & Nino Panagia.* 354, L49, 86-C1 (1990)

MEAKIN, P. Aerodynamic Properties of Fractal Grains: Implications for the Primordial Solar Nebula. *P. Meakin & B. Donn.* 329, L39, 81-D2 (1988)

MEATHERINGHAM, S. J. Surface Photometry of Shell Galaxies. *B. P. Fort, J.-L. Prieur, D. Carter, S. J. Meatheringham, & L. Vigroux.* 306, 110, 82-D9 (1986)

Angular Diameters and Fluxes of Magellanic Cloud Planetary Nebulae. II. High-Speed Direct Imaging. *P. R. Wood, S. J. Meatheringham, M. A. Dopita, & D. H. Morgan.* 320, 178, 110-A11 (1987)

The Ionization Effects of Shock Breakout in SN 1987A. *M. A. Dopita, S. J. Meatheringham, P. Nulsen, & P. R. Wood.* 322, L85, 152-C5 (1987)

The Evolutionary Sequence of Planetary Nebulae. *M. A. Dopita & S. J. Meatheringham.* 357, 140, 112-G3 (1990)

MEATHERINGHAM, STEPHEN J. New Evolutionary Relationships for Magellanic Cloud Planetary Nebulae. *Michael A. Dopita, Stephen J. Meatheringham, Peter R. Wood, B. Louise Webster, David H. Morgan, & Holland C. Ford.* 315, L107, 49-D2 (1987)

The Internal Dynamics of the Planetary Nebulae in the Large Magellanic Cloud. *Michael A. Dopita, Stephen J. Meatheringham, B. Louise Webster, & Holland C. Ford.* 327, 639, 55-F2 (1988)

The Kinematics of the Planetary Nebulae in the Large Magellanic Cloud. *Stephen J. Meatheringham, Michael A. Dopita, Holland C. Ford, & B. Louise Webster.* 327, 651, 55-F14 (1988)

Fluxes and Ionized Masses of Magellanic Cloud Planetary Nebulae. *Stephen J. Meatheringham, Michael A. Dopita, & David H. Morgan.* 329, 166, 76-G4 (1988)

A Study of Some Southern Planetary Nebulae. *Stephen J. Meatheringham, P. R. Wood, & D. J. Faulkner.* 334, 862, 166-A1 (1988)

An Extremely Carbon-poor Planetary Nebula in the Small Magellanic Cloud. *Stephen J. Meatheringham, Stephen P. Maran, Theodore P. Stecher, Andrew G. Michalitsianos, Theodore R. Gull, Lawrence H. Aller, & Charles D. Keyes.* 361, 101, 158-C5 (1990)

MEBOLD, U. The Structure of the Interstellar Medium at the 25 AU Scale. *P. J. Diamond, W. M. Goss, J. D. Romney, R. S. Booth, P. M. W. Kalberla, & U. Mebold.* 347, 302, 185-G3 (1989)

MEECH, KAREN J. Cometary Grain Scattering versus Wavelength, or, "What Color Is Comet Dust?." *David Jewitt & Karen J. Meech.* 310, 937, 144-C6 (1986)

Surface Brightness Profiles of 10 Comets. *D. C. Jewitt & Karen J. Meech.* 317, 992, 77-A7 (1987)

Optical Properties of Cometary Nuclei and a Preliminary Comparison with Asteroids. *David C. Jewitt & Karen J. Meech.* 328, 974, 74-A1 (1988)

MEEGAN, C. A. High-Resolution Observations of Gamma-Ray Line Emission from SN 1987A. *W. G. Sandie, G. H. Nakano, L. F. Chase, Jr., G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, & G. P. Lasche.* 334, L91, 169-E2 (1988)

MEERSON, B. The Nonlinear Theory of Thermal Instability: The Intermediate- and Short-Wavelength Limits. *B. Meerson.* 347, 1012, 196-B3 (1989)

MEGEATH, S. T. Si II Mapping of the Neutral Gas Ring in the Galactic Center: Evidence for Dust Destruction. *T. Herter, G. E. Gull, S. T. Megeath, N. Rowlands, & J. R. Houck.* 343, 696, 127-G1 (1989)

Infrared and Radio Measurements of the Density Structure of Compact H II Regions. *S. T. Megeath, T. Herter, G. E. Gull, & J. R. Houck.* 356, 534, 106-G13 (1990)

MEHANIAN, C. Theory of Axisymmetric Magnetohydrodynamic Flows: Disks. *R. V. E. Lovelace, C. Mehanian, C. M. Mobarry, & M. E. Sulkanen.* 62, 1, 31-A5 (1986)

MEI, YI. Theory of Centrifugally Driven Magnetospheric Diffusion. *Danny Summers, Richard M. Thorne, & Yi Mei.* 328, 358, 66-B1 (1988)

MEIER, DAVID L. Numerical Simulations of Magnetized Jets. *Kevin R. Lind, David G. Payne, David L. Meier, & Roger D. Blandford.* 344, 89, 134-B8 (1989)

MEIKLE, W. P. S. *IRAS* Observations of Collisionally Heated Dust in Large Magellanic Cloud Supernova Remnants. *James R. Graham, A. Evans, J. S. Albinson, M. F. Bode, & W. P. S. Meikle.* 319, 126, 94-D5 (1987)

Line Identifications in the Infrared Spectrum of SN 1987A. *J. H. Elias, B. Gregory, M. M. Phillips, R. E. Williams, James R. Graham, W. P. S. Meikle, R. D. Schwartz, & B. Wilking.* 331, L9, 114-B1 (1988)

The Infrared Light Curves and Colors of SN 1984A. *James R. Graham, W. P. S. Meikle, A. J. Longmore, & P. M. Williams.* 333, 743, 148-D1 (1988)

MEIKSIN, A. The Southern Sky Redshift Survey. *L. Nicolaci da Costa, P. S. Pellegrini, W. L. W. Sargent, J. Tonry, M. Davis, A. Meiksin, David W. Latham, J. W. Menzies, & I. A. Coulson.* 327, 544, 54-F1 (1988)

MEIKSIN, AVERY. The Role of Heat Conduction in the Cooling Flows of Galaxy Clusters. *Edmund Bertschinger & Avery Meiksin.* 306, L1, 86-A4 (1986)

On the Universality of the Two-Point Galaxy Correlation Function. *Marc Davis, Avery Meiksin, Michael A. Strauss, L. Nicolaci da Costa, & Amos Yahil.* 333, L9, 144-B1 (1988)

The Global Stability of Galaxy Cluster Cooling Flows, Including the Effects of Heat Conduction and a Sink. *Avery Meiksin.* 334, 59, 154-F7 (1988)

The Evolution of Cooling Flows in Clusters of Galaxies. *Avery Meiksin.* 352, 466, 56-G11 (1990)

Fueling Active Galactic Nuclei by Magnetic Braking. *Julian H. Krolik & Avery Meiksin.* 352, L33, 61-B7 (1990)

MEISENHEIMER, KLAUS. A Bright Optical Synchrotron Counterpart of the Western Hot Spot in Pictor A. *Hermann-Josef Rösser & Klaus Meisenheimer.* 314, 70, 28-G1 (1987)

MEIXNER, MARGARET. High-Resolution CO Images of Seyfert Galaxies. *Margaret Meixner, Richard Puchalsky, Leo Blitz, Melvyn Wright, & Tim Heckman.* 354, 158, 76-A1 (1990)

MEKLER, YURI. Evaporation from a Porous Cometary Nucleus. *Yuri Mekler, Dina Prialnik, & Morris Podolak.* 356, 682, 108-F6 (1990)

MELCHIORRI, B. On the Dipole and Quadrupole Kinematic Anisotropy in the Brightness of the Cosmic Background Radiation. *P. de Bernardis, M. Epifani, G. Guarini, S. Masi, F. Melchiorri, & B. Melchiorri.* 353, 145, 64-A1 (1990)

Search for Cosmological Emission Lines: A New Method. *P. de Bernardis, S. Masi, B. Melchiorri, & F. Melchiorri.* 357, 8, 111-B10 (1990)

MELCHIORRI, F. The Large-Scale Anisotropies of the Extragalactic Infrared Background. *R. Fabbri, P. Andreani, F. Melchiorri, & B. Nisini.* 315, 12, 40-B4 (1987)

Far-Infrared Diffuse Emission: Cosecant *b* Law and Galaxy Counts. *P. de Bernardis, S. Masi, F. Melchiorri, G. Moreno, R. Vannoni, & S. Aiello.* 326, 941, 43-G8 (1988)

On the Dipole and Quadrupole Kinematic Anisotropy in the Brightness of the Cosmic Background Radiation. *P. de Bernardis, M. Epifani, G. Guarini, S. Masi, F. Melchiorri, & B. Melchiorri.* 353, 145, 64-A1 (1990)

Search for Cosmological Emission Lines: A New Method. *P. de Bernardis, S. Masi, B. Melchiorri, & F. Melchiorri.* 357, 8, 111-B10 (1990)

A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)

MELCHIORRI, FRANCESCO. Extragalactic Infrared Backgrounds, Polarization, and Universal Magnetic Field. *Paolo de Bernardis, Silvia Masi, Francesco Melchiorri, & Giovanni Moreno.* 340, L45, 83-A10 (1989)

MELIA, F. Optical Reprocessing of Gamma-Ray Bursts. *F. Melia, S. Rappaport, & P. C. Joss.* 305, L51, 80-C4 (1986)

MELIA, FULVIO. Quasi-static Winds from Neutron Stars. *Paul C. Joss & Fulvio Melia.* 312, 700, 10-E7 (1987)

Multipeaked X-Ray Bursts from 4U/MXB 1636–53: Evidence for Burst-induced Accretion Disk Coronae. *Fulvio Melia.* 315, L43, 45-D12 (1987)

Synchronization-induced Period Gaps and Ultra-Short Periods in Magnetic Cataclysmic Binaries. *D. Q. Lamb & Fulvio Melia.* 321, L133, 137-C11 (1987)

Dynamical Mass Transfer in Cataclysmic Binaries. *Fulvio Melia & D. Q. Lamb.* 321, L139, 137-D2 (1987)

Gamma-Ray Burst Reprocessing in an Accretion Disk. *Fulvio Melia.* 324, L21, 9-B10 (1988)

On the Nature of Gamma-Ray Burst Spectra. *Fulvio Melia.* 334, L9, 161-B5 (1988)

Do Gamma-Ray Burst Sources Evolve from Be/X-Ray Binaries? *Fulvio Melia.* 335, 965, 183-C7 (1988)

The Radiative Deceleration of Relativistic Jets in Active Galactic Nuclei. *Fulvio Melia & Arieh Königl.* 340, 162, 69-B5 (1989)

Particle Dynamics and Gamma-Ray Emission in the Magnetospheres of Neutron Stars with Accretion Disks. *Fulvio Melia & Marco Fatuzzo.* 346, 378, 170-G1 (1989)

Gamma-Ray Bursts from Magnetospheric Plasma Oscillations. *Fulvio Melia.* 351, 601, 47-E7 (1990)

Gamma-Ray Bursts from Magnetospheric Plasma Oscillations. II. Model Spectra. *Fulvio Melia.* 357, 161, 113-B1 (1990)

MELNICK, G. Observations of Far-Infrared Line Profiles in the Orion-KL Region. *M. K. Crawford, J. B. Lugten, W. Fitelson, R. Genzel, & G. Melnick.* 303, L57, 53-D7 (1986)

MELNICK, G. J. Interpretation of Rotationally Excited Far-Infrared OH Emission in Orion-KL. *G. J. Melnick, R. Genzel, & J. B. Lugten.* 321, 530, 127-G10 (1987)

Further Observations of Rotationally Excited Far-Infrared ^{16}OH and ^{18}OH Emission in Orion-KL: Tighter Constraints on the Nature of the Emitting Region. *G. J. Melnick, G. J. Stacey, R. Genzel, J. B. Lugten, & A. Poglitsch.* 348, 161, 3-A10 (1990)

MELNICK, GARY. Observations of the 157.7 Micron [C II] Emission from the Galactic H II Regions W3 and W51. *Gary Melnick,*

Gordon J. Stacey, Paul J. Viscuso, & Charles E. Fuller. 303, 638, 49-E1 (1986)

MELNICK, GARY J. H_2O Line Emission from Shocked Gas. *David A. Neufeld & Gary J. Melnick.* 322, 266, 140-F12 (1987)

Hot Water around Late-Type Stars: Detection of Two Millimeter-Wave Emission Lines from the ν_2 Vibrationally Excited State. *Karl M. Menten & Gary J. Melnick.* 341, L91, 100-B10 (1989)

Submillimeter Water Masers. *Karl M. Menten, Gary J. Melnick, & Thomas G. Phillips.* 350, L41, 37-C1 (1990)

Interpretation of the Newly Discovered Submillimeter Water Maser. *David A. Neufeld & Gary J. Melnick.* 352, L9, 55-B6 (1990)

A New Submillimeter Water Maser Transition at 325 GHz. *Karl M. Menten, Gary J. Melnick, Thomas G. Phillips, & David A. Neufeld.* 363, L27, 193-E1 (1990)

MELNICK, JORGE. The Clustering of H II Galaxies. *Angela Iovino, Jorge Melnick, & Peter Shaver.* 330, L17, 96-D10 (1988)

MELOTT, A. L. A Model for the Formation of the Local Group. *P. J. E. Peebles, A. L. Melott, M. R. Holmes, & L. R. Jiang.* 345, 108, 150-D1 (1989)

MELOTT, ADRIAN L. An Independent Test of Biased Galaxy Formation with Cold Particles: The Three-Point Function. *Adrian L. Melott & J. N. Fry.* 305, 1, 67-A7 (1986)

The Sponge-like Topology of Large-Scale Structure in the Universe. *J. Richard Gott III, Adrian L. Melott, & Mark Dickinson.* 306, 341, 88-C1 (1986)

A Quantitative Approach to the Topology of Large-Scale Structure. *J. Richard Gott III, David H. Weinberg, & Adrian L. Melott.* 319, 1, 93-A7 (1987)

The Topology of Large-Scale Structure. Topology and the Random Phase Hypothesis. *David H. Weinberg, J. Richard Gott III, & Adrian L. Melott.* 321, 2, 122-A8 (1987)

Comparisons of the Spatial Distribution of Abell Clusters against Models with Gaussian Initial Conditions. *David J. Batuski, Adrian L. Melott, & Jack O. Burns.* 322, 48, 138-D12 (1987)

Has Dark Matter Decay Been Detected? *Adrian L. Melott, Douglas W. McKay, & John P. Ralston.* 324, L43, 18-B1 (1988)

The Topology of Large-Scale Structure. II. Nonlinear Evolution of Gaussian Models. *Adrian L. Melott, David H. Weinberg, & J. Richard Gott III.* 328, 50, 62-E3 (1988)

Large-Scale Structure from Cosmic String Loops in a Baryon-dominated Universe. *Adrian L. Melott & Robert J. Scherrer.* 331, 38, 106-D6 (1988)

A Case Study of Large-Scale Structure in a "Hot" Model Universe. *Joan M. Centrella, John S. Gallagher III, Adrian L. Melott, & Howard A. Bushouse.* 333, 24, 138-C4 (1988)

Void Statistics, Scaling, and the Origins of Large-Scale Structure. *J. N. Fry, Riccardo Giovanelli, Martha P. Haynes, Adrian L. Melott, & Robert J. Scherrer.* 340, 11, 67-B4 (1989)

The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

The Area of Isodensity Contours in Cosmological Models and Galaxy Surveys. *Barbara S. Ryden, Adrian L. Melott, David A. Craig, J. Richard Gott III, David H. Weinberg, Robert J. Scherrer, Suketu P. Bhavsar, & John M. Miller.* 340, 647, 76-E1 (1989)

Gravitational Instability with High Resolution. *Adrian L. Melott & Sergei F. Shandarin.* 343, 26, 118-C11 (1989)

Topology of Large-Scale Structure. IV. Topology in Two Dimensions. *Adrian L. Melott, Alexander P. Cohen, Andrew J. S. Hamilton, J. Richard Gott III, & David H. Weinberg.* 345, 618, 158-D1 (1989)

Gravitational Instability with High Resolution: Erratum. *Adrian L. Melott & Sergei F. Shandarin.* 348, 370, 5-E10 (1990) (Orig. paper in 343, 26, 118-C11 (1989))

Minimal Spectrum of Long-Wave Perturbations: Is Linear Growth Correct Only in the Nonlinear Regime? *Sergei F. Shandarin & Adrian L. Melott.* 364, 396, 200-G9 (1990)

MELOZZI, M. Microwave Observations of Flare Stars UV Ceti, AT Microscopii, and AU Microscopii. *M. R. Kundu, P. D. Jackson, S. M. White, & M. Melozzi.* 312, 822, 12-A1 (1987)

MELROSE, D. B. Particle Propagation Effects on Wave Growth in a Solar Flux Tube. *S. M. White, D. B. Melrose, & G. A. Dulk.* 308, 424, 112-F1 (1986)

On the Controversy Concerning Turbulent Bremsstrahlung. *D. B. Melrose & J. Kuijpers.* 323, 338, 156-F7 (1987)

On the Stability of Proton Beams against Resonant Scattering by Alfvén Waves in Solar Flare Loops. *David H. Tamres, D. B. Melrose, & Richard C. Canfield.* 342, 576, 107-G1 (1989)

MEMBRADO, M. Introduction of Short-Range Effects in the Oppenheimer-Volkoff Equation. *M. Membrado, A. F. Pacheco, & H. Vucetich.* 348, 212, 3-E11 (1990)

MEMBRADO, MANUEL C. Implication of Yukawa-like Effects in a White Dwarf Structure. *Manuel C. Membrado & Amalio F. Pacheco.* 327, 726, 56-E8 (1988)

Short-Range Effects in Large White Dwarfs. *Manuel C. Membrado & Amalio F. Pacheco.* 331, 394, 110-E11 (1988)

MÉNARD, F. Optical Polarization Maps of Star-forming Regions in Perseus, Taurus, and Ophiuchus. *A. A. Goodman, P. Bastien, P. C. Myers, & F. Ménard.* 359, 363, 140-E6 (1990)

MÉNARD, FRANÇOIS. On the Interpretation of Polarization Maps of Young Stellar Objects. *Pierre Bastien & François Ménard.* 326, 334, 35-G7 (1988)

Detection of Circular Polarization in R Monocerotis and NGC 2261: Implications for the Polarization Mechanism. *François Ménard, Pierre Bastien, & Carmelle Robert.* 335, 290, 173-F9 (1988)

Parameters of Disks around Young Stellar Objects from Polarization Observations. *Pierre Bastien & François Ménard.* 364, 232, 196-G13 (1990)

MENA-WERTH, J. Problems with the Baade-Wesselink Method. *E. Böhm-Vitense, P. Garnavich, M. Lawler, J. Mena-Werth, S. Morgan, E. Peterson, & S. Temple.* 343, 343, 122-D4 (1989)

MENDELSON, H. SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. I. Markarian 279. *D. Maoz, H. Netzer, E. Leibowitz, N. Brosch, A. Laor, H. Mendelson, S. Beck, E. Almoznino, & T. Mazeh.* 351, 75, 39-A5 (1990)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. II. NGC 5548. *H. Netzer, D. Maoz, A. Laor, H. Mendelson, N. Brosch, E. Leibowitz, E. Almoznino, S. Beck, & T. Mazeh.* 353, 108, 63-D7 (1990)

MENDELSON, HAIM. Photometry of SS 433 over 7 Years: Study of Two Periodicities. *Tsevi Mazeh, James C. Kemp, Elia M. Leibowitz, Herbert Meninger, & Haim Mendelson.* 317, 824, 75-A13 (1987)

MÉNDEZ, M. SN 1987A: A Linear Polarimetric Study. *M. Méndez, A. Clocchiatti, O. G. Benvenuto, C. Feinstein, & H. G. Marraco.* 334, 295, 157-F1 (1988)

MÉNDEZ, MARIANO. NGC 362: More Arguments for Dust in Globular Clusters. *Mariano Méndez, Juan C. Forte, & Ana M. Orsatti.* 338, 136, 34-F4 (1989)

Dust Clouds within Globular Clusters: Polarization. *Juan C. Forte & Mariano Méndez.* 345, 222, 151-G10 (1989)

MENDEZ, R. H. Evolutionary versus Dynamical Time Scales for the Evolution of the Central Stars of Planetary Nebulae. *J. K. McCarthy, J. R. Mould, R. H. Mendez, R. P. Kudritzki, D. Husfeld, A. Herrero, & H. G. Groth.* 351, 230, 40-G10 (1990)

MENDIS, D. A. The Effects of the Interaction between Plasma and Neutrals on the Stability of the Cometary Ionopause. *A. I. Ershkovich & D. A. Mendis.* 302, 849, 40-A3 (1986)

The Effects of Electrostatic Charging on the Dust Distribution at Halley's Comet. *M. Horańyi & D. A. Mendis.* 307, 800, 105-F8 (1986)

Stability of the Sunlit Cometary Ionopause. *A. I. Ershkovich, K. R. Flammer, & D. A. Mendis.* 311, 1031, 159-B7 (1986)

On the Ammonia Abundance in the Coma of Halley's Comet. *M. L. Marconi & D. A. Mendis.* 330, 513, 96-A7 (1988)

On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 343, L77, 132-E5 (1989)

On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 349, L33, 19-D4 (1990) (Orig. paper in 343, L77, 132-E5 (1989))

The Identification of H_3S^+ with the Ion of Mass per Charge (m/q) 35 Observed in the Coma of Comet Halley. *M. L. Marconi, D. A. Mendis, A. Korth, R. P. Lin, D. L. Mitchell, & H. Reme.* 352, L17, 55-C1 (1990)

MENDOZA, B. A Discussion about the Geometry of the *Skylab* North Polar Coronal Hole. *S. Bravo & B. Mendoza.* 338, 1171, 48-B1 (1989)

MENGONI, A. ^{148,150}Sm: A Test for *s*-Process Nucleosynthesis. *R. R. Winters, F. Käppeler, K. Wisshak, A. Mengoni, & G. Reffo.* 300, 41, 1-D5 (1986)

MENINGER, HERBERT. Photometry of SS 433 over 7 Years: Study of Two Periodicities. *Tsevi Mazeh, James C. Kemp, Elia M. Leibowitz, Herbert Meninger, & Haim Mendelson.* 317, 824, 75-A13 (1987)

MENON, T. K. Infrared Emission from Compact Groups of Galaxies. *Paul Hickson, T. K. Menon, G. G. C. Palumbo, & M. Persic.* 341, 679, 93-F5 (1989)

MENTEN, K. M. High-Resolution VLA Observations of the W3(OH) Methanol Masers. *K. M. Menten, K. J. Johnston, E. J. Wadiak, C. M. Walmsley, & T. L. Wilson.* 331, L41, 114-D5 (1988)

VLBI Observations of 12 GHz Methanol Masers. *K. M. Menten, M. J. Reid, J. M. Moran, T. L. Wilson, K. J. Johnston, & W. Batrla.* 333, L83, 152-F1 (1988)

A Subarcsecond H_2O Maser Shell Surrounding a Variable Star. *M. J. Reid & K. M. Menten.* 360, L51, 156-D7 (1990)

First Images of Water Vapor Masers in the Galaxy M33. *L. J. Greenhill, J. M. Moran, M. J. Reid, C. R. Gwinn, K. M. Menten, A. Eckart, & H. Hirabayashi.* 364, 513, 202-E1 (1990)

95 GHz Methanol Masers near DR 21 and DR 21(OH). *R. L. Plambeck & K. M. Menten.* 364, 555, 203-A9 (1990)

MENTEN, KARL M. Detection of a Strong New Maser Line of Methanol toward DR 21(OH). *Wolfgang Batrla & Karl M. Menten.* 329, L117, 89-G1 (1988)

Observations of Various Methanol Maser Transitions toward the NGC 6334 Region. *Karl M. Menten & Wolfgang Batrla.* 341, 839, 95-E8 (1989)

Hot Water around Late-Type Stars: Detection of Two Millimeter-Wave Emission Lines from the ν_2 Vibrationally Excited State. *Karl M. Menten & Gary J. Melnick.* 341, L91, 100-B10 (1989)

Detection of Three New Methanol Maser Transitions toward Star-forming Regions. *Aubrey D. Haschick, Willem A. Baan, & Karl M. Menten.* 346, 330, 170-C1 (1989)

Submillimeter Water Masers. *Karl M. Menten, Gary J. Melnick, & Thomas G. Phillips.* 350, L41, 37-C1 (1990)

Detection of Widespread Strong Methanol Masers at 44 GHz. *Aubrey D. Haschick, Karl M. Menten, & Willem A. Baan.* 354, 556, 83-C4 (1990)

A New Submillimeter Water Maser Transition at 325 GHz. *Karl M. Menten, Gary J. Melnick, Thomas G. Phillips, & David A. Neufeld.* 363, L27, 193-E1 (1990)

MENYUK, C. R. Electron Cyclotron Harmonic Wave Acceleration. *H. Karimabadi, C. R. Menyuk, P. Sprangle, & L. Vlahos.* 316, 462, 55-B2 (1987)

MENZIES, J. W. The Southern Sky Redshift Survey. *L. Nicolaci da Costa, P. S. Pellegrini, W. L. W. Sargent, J. Tonry, M. Davis, A. Meiksin, David W. Latham, J. W. Menzies, & I. A. Coulson.* 327, 544, 54-F1 (1988)

MEREGHETTI, S. *EXOSAT* and *Einstein* X-Ray Observations of the SNR 1E 1149.4−6209 in Crux: A Unified Picture? *G. F. Bignami, P. A. Caraveo, A. Goldwurm, S. Mereghetti, & G. G. C. Palumbo.* 302, 606, 37-C2 (1986)

A Search for Millisecond Periodic and Quasi-periodic Pulsations in Low-Mass X-Ray Binaries. *S. Mereghetti & J. E. Grindlay.* 312, 727, 10-G6 (1987)

EXOSAT and *Einstein* Observations of the X-Ray Pulsar 4U 1145−619. *S. Mereghetti, G. F. Bignami, P. A. Caraveo, & A. Goldwurm.* 312, 755, 11-B11 (1987)

MEREGHETTI, SANDRO. Active Galactic Nuclei and the Gamma-Ray Cosmic Diffuse Background. *Sandro Mereghetti.* 354, 58, 74-F8 (1990)

MERLINE, W. J. Evidence for Periodic Radial Velocity Variations in Arcturus. *P. H. Smith, R. S. McMillan, & W. J. Merline.* 317, L79, 78-C12 (1987)

MERRITT, DAVID. The Distribution of Dark Matter in the Coma Cluster. *David Merritt.* 313, 121, 16-C13 (1987)

Dynamical Instability of a Model of M87. *David Merritt.* 319, 55, 93-E14 (1987)

Radial and Nonradial Stability of Spherical Stellar Systems. *Herwig Dejonghe & David Merritt.* 328, 93, 62-A10 (1988)

Dynamics of the Hydra I Galaxy Cluster. *Michael Fitchett & David Merritt.* 335, 18, 170-C5 (1988)

The Mass of the Open Star Cluster M35 as Derived from Proper Motions. *Peter J. T. Leonard & David Merritt.* 339, 195, 52-D6 (1989)

The Structure and Dynamics of Galaxies Formed by Cold Dissipationless Collapse. *Luis A. Aguilar & David Merritt.* 354, 33, 74-D9 (1990)

Stability of Nonrotating Stellar Systems. I. Oblate Shell-Orbit Models. *David Merritt & Massimo Stiavelli.* 358, 399, 128-E1 (1990)

MERRITT, DONALD R. Identification of Lines in the Satellite Ultraviolet: The Spectrum of Tau Scorpii. *Charles R. Cowley & Donald R. Merritt.* 321, 553, 128-B10 (1987)

MERRYFIELD, WILLIAM J. Nonlinear Behavior of Solar Gravity Modes Driven by ^{3}He in the Core. I. Bifurcation Analysis. *William J. Merryfield, Juri Toomre, & Douglas Gough.* 353, 678, 72-C8 (1990)

MESSACAPPA, ANTHONY. Computer Simulation of Time-dependent, Spherically Symmetric Spacetimes Containing Radiating Fluids: Formalism and Code Tests. *Anthony Messacappa & Richard A. Matzner.* 343, 853, 129-G5 (1989)

MESSINA, D. C. Spectral Evolution of Pulse Structures in Gamma-Ray Bursts. *J. P. Norris, G. H. Share, D. C. Messina, B. R. Dennis, U. D. Desai, T. L. Cline, S. M. Matz, & E. L. Chupp.* 301, 213, 16-C7 (1986)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Messina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 326, 717, 41-E1 (1988)

Measurement of the 0.3–8.5 MeV Galactic Gamma-Ray Spectrum from the Galactic Center Direction. *M. J. Harris, G. H. Share, M. D. Leising, R. L. Kinzer, & D. C. Messina.* 362, 135, 170-G1 (1990)

MESSINA, DANIEL C. Limits on a Variable Source of 511 keV Annihilation Radiation near the Galactic Center. *Gerald H. Share, Mark D. Leising, Daniel C. Messina, & William R. Purcell.* 358, L45, 133-C3 (1990)

MÉSZÁROS, A. Large-Scale Structure of the Universe: Constraints from the X-Ray Background. *A. Mészáros & P. Mészáros.* 327, 25, 47-C3 (1988)

Cosmological Constraints on the Clustering of X-Ray Background Sources. *Z. Bagoly, A. Mészáros, & P. Mészáros.* 333, 54, 138-E6 (1988)

MÉSZÁROS, P. The Angle-dependent Compton Redistribution Function in X-Ray Sources. *P. Mészáros & R. W. Bussard.* 306, 238, 83-G12 (1986)

Polarization and Beaming of Accretion Disk Radiation. *K. C. Phillips & P. Mészáros.* 310, 284, 135-B6 (1986)

The Spectra of Accretion Disks and Their Application to Low-Mass X-Ray Binaries. *Ronald E. Taam & P. Mészáros.* 322, 329, 141-D6 (1987)

On the Radius of Neutron Stars. *P. Mészáros & H. Riffert.* 323, L127, 164-D3 (1987)

Astrophysical Implications and Observational Prospects of X-Ray Polarimetry. *P. Mészáros, R. Novick, G. A. Chanan, M. C. Weisskopf, & A. Szentgyörgyi.* 324, 1056, 15-B5 (1988)

On the Nonpulsation of QPOs and Galactic Bulge Neutron Star X-Ray Sources. *P. Mészáros, H. Riffert, & G. Berthiaume.* 325, 204, 21-D2 (1988)

Gravitational Light Bending near Neutron Stars. I. Emission from Columns and Hot Spots. *H. Riffert & P. Mészáros.* 325, 207, 21-D5 (1988)

Large-Scale Structure of the Universe: Constraints from the X-Ray Background. *A. Mészáros & P. Mészáros.* 327, 25, 47-C3 (1988)

Gravitational Light Bending near Neutron Stars. II. Accreting Pulsar Spectra as a Function of Phase. *P. Mészáros & H. Riffert.* 327, 712, 56-D8 (1988)

Cosmological Constraints on the Clustering of X-Ray Background Sources. *Z. Bagoly, A. Mészáros, & P. Mészáros.* 333, 54, 138-E6 (1988)

TeV and PeV Gamma-Ray Emission from Accreting Pulsars. *P. Király & P. Mészáros.* 333, 719, 148-B1 (1988)

The Effect of Stimulated Scattering in Compact Sources. *P. Mészáros, G. G. Pavlov, & Yu. A. Shibanov.* 337, 426, 22-E7 (1989)

Magnetized Neutron Stars as Gamma-Ray Bursters: Detection Rates at High Energies. *P. Mészáros, Z. Bagoly, & H. Riffert.* 337, L23, 25-C1 (1989)

High-Energy Gamma-Ray Absorption in Relativistic Magnetospheres. *H. Riffert, P. Mészáros, & Z. Bagoly.* 340, 443, 72-F8 (1989)

The Nonlinear Transfer Problem in Accreting Pulsars: Stimulated Scattering Effects. *S. G. Alexander, P. Mészáros, & R. W. Bussard.* 342, 928, 113-G1 (1989)

Formation of Cyclotron Lines in Gamma-Ray Burst Spectra. *S. G. Alexander & P. Mészáros.* 344, L1, 140-A6 (1989)

The Dynamical Influence of Radiation in Type 1 X-Ray Bursts. *Mark A. Walker & P. Mészáros.* 346, 844, 177-F9 (1989)

Self-consistent Spherical Accretion Shocks around Black Holes. *Arif Babul, Jeremiah P. Ostriker, & P. Mészáros.* 347, 59, 182-G1 (1989)

Magnetic Field Distribution in Polar Cap Models of Gamma-Ray Bursters. *Z. Bagoly, P. Mészáros, & S. M. Matz.* 359, 438, 141-D12 (1990)

METCALF, FREDERIC T. Flare Heating and Ionization of the Low Solar Chromosphere. I. Inversion Methods for Mg I λλ4571 and 5173. *Thomas R. Metcalf, Richard C. Canfield, Eugene H. Avrett, & Frederic T. Metcalf.* 350, 463, 30-F1 (1990)

METCALF, THOMAS R. The Hα Spectral Counterparts of Solar Hard X-Rays Microflares. *Richard C. Canfield & Thomas R. Metcalf.* 321, 586, 128-E2 (1987)

Explosive Plasma Flows in a Solar Flare. *Dominic M. Zarro, Richard C. Canfield, Keith T. Strong, & Thomas R. Metcalf.* 324, 582, 7-E12 (1988)

Momentum Balance in Four Solar Flares. *Richard C. Canfield, Dominic M. Zarro, Thomas R. Metcalf, & James R. Lemen.* 348, 333, 5-B7 (1990)

Flare Heating and Ionization of the Low Solar Chromosphere. I. Inversion Methods for Mg I λλ4571 and 5173. *Thomas R. Metcalf, Richard C. Canfield, Eugene H. Avrett, & Frederic T. Metcalf.* 350, 463, 30-F1 (1990)

Flare Heating and Ionization of the Low Solar Chromosphere. II. Observations of Five Solar Flares. *Thomas R. Metcalf, Richard C. Canfield, & Julia L. R. Saba.* 365, 391, 211-C1 (1990)

METIN, S. Nitrogenated Amorphous Carbons: A Potential Source of Diffuse Interstellar Infrared Emission. *D. D. Saperstein, S. Metin, & J. H. Kaufman.* 342, L47, 109-D11 (1989)

METZGER, ALBERT E. An Upper Limit to X-Ray Emission from Saturn. *David A. Gilman, Kevin C. Hurley, Frederick D. Seward, Herbert W. Schnopper, James D. Sullivan, & Albert E. Metzger.* 300, 453, 6-A9 (1986)

MEURS, E. J. A. 1E 1415.6+2557: An X-Ray–Selected BL Lacertae Object in a Luminous Galaxy. *J. P. Halpern, C. D. Impey, G. D. Bothun, S. Tapia, E. D. Skillman, A. S. Wilson, & E. J. A. Meurs.* 302, 711, 38-D5 (1986)

Radio Lobes and [O III] Profile Substructure in Seyfert Galaxies. *M. Whittle, A. Pedlar, E. J. A. Meurs, S. W. Unger, D. J. Axon, & M. J. Ward.* 326, 125, 33-D8 (1988)

MEWALDT, R. A. ^{3}He in Galactic Cosmic Rays. *R. A. Mewaldt.* 311, 979, 158-E8 (1986)

A Reexamination of the Cosmic-Ray Helium Spectrum and the ^{3}He/^{4}He Ratio at High Energies. *W. R. Webber, R. L. Golden, & R. A. Mewaldt.* 312, 178, 2-G13 (1987)

Isotope Abundances of Solar Coronal Material Derived from Solar Energetic Particle Measurements. *R. A. Mewaldt & E. C. Stone.* 337, 959, 30-F6 (1989)

MEWE, R. Coronal Activity in F-, G-, and K-Type Stars. III. The Coronal Differential Emission Measure Distribution of Capella, σ^2 Coronae Borealis, and Procyon. *J. R. Lemen, R. Mewe, C. J. Schrijver, & A. Fludra.* 341, 474, 89-F11 (1989)

Coronal Activity in F-, G-, and K-Type Stars. IV. Evidence for Expanding Loop Geometries in Stellar Coronae. *C. J. Schrijver, J. R. Lemen, & R. Mewe.* 341, 484, 89-G8 (1989)

MEYER, B. S. Coupled Baryon Diffusion and Nucleosynthesis in the Early Universe. *G. J. Mathews, B. S. Meyer, C. R. Alcock, & G. M. Fuller.* 358, 36, 122-D11 (1990)

MEYER, BRADLEY S. General Constraints on the Age and Chemical Evolution of the Galaxy. *Bradley S. Meyer & David N. Schramm.* 311, 406, 150-E1 (1986)

Decompression of Initially Cold Neutron Star Matter: A Mechanism for the *r*-Process? *Bradley S. Meyer.* 343, 254, 121-D1 (1989)

Solar Antineutrinos. *Robert A. Malaney, Bradley S. Meyer, & Malcolm N. Butler.* 352, 767, 60-E9 (1990)

MEYER, DAVID M. Observations of Neutral Atoms in the Rho Ophiuchi Cloud. *Theodore P. Snow, Charles L. Joseph, & David M. Meyer.* 303, 433, 45-G5 (1986)

An Upper Limit on the Microwave Background Temperature at $z = 1.776$. *David M. Meyer, John H. Black, Frederic H. Chaffee, Jr., Craig B. Foltz, & Donald G. York.* 308, L37, 120-E1 (1986)

Observations of Weak C IV Absorption toward the QSOs 2000–330 and 2126–158. *David M. Meyer & Donald G. York.* 315, L5, 45-A8 (1987)

Observations of Ni II Absorption at $z = 2.811$ toward the QSO PKS 0582−250. *David M. Meyer & Donald G. York.* 319, L45, 107-B13 (1987)

Observations of High-Redshift Ca II Absorption in QSO Spectra. *J. Gordon Robertson, Donald C. Morton, J. Chris Blades, Donald G. York, & David M. Meyer.* 325, 635, 27-D13 (1988)

Probing the Possibility of a $^{12}C/^{13}C$ Abundance Gradient from Observations in Interstellar CH^+. *Isabel Hawkins & David M. Meyer.* 338, 888, 45-A1 (1989)

A Precise CN Measurement of the Cosmic Microwave Background Temperature at 1.32 Millimeters. *David M. Meyer, Katherine C. Roth, & Isabel Hawkins.* 343, L1, 125-B6 (1989)

Element Abundances at High Redshift. *David M. Meyer, D. E. Welty, & D. G. York.* 343, L37, 132-B1 (1989)

Observations of the (1, 0) Vibrational Band of Interstellar CN toward Zeta Ophiuchi. *David M. Meyer & Katherine C. Roth.* 349, 91, 15-B1 (1990)

Observations of Nickel, Chromium, and Zinc in QSO Absorption-Line Systems. *David M. Meyer & Katherine C. Roth.* 363, 57, 182-G10 (1990)

Small-Scale Structure in the Diffuse Interstellar Medium. *David M. Meyer.* 364, L5, 199-B1 (1990)

MEYER, J. P. Solar Energetic Particle Observations of the 1982 June 3 and 1980 June 21 Gamma-Ray/Neutron Events. *M. A. I. Van Hollebeke, F. B. McDonald, & J. P. Meyer.* 73, 285, 21-F1 (1990)

MEYER, PETER. Cosmic-Ray Elemental Abundances from 1 to 10 GeV per AMU for Boron through Nickel. *Robert Dwyer & Peter Meyer.* 322, 981, 150-E12 (1987)

Energy Spectra of Cosmic-Ray Nuclei from 50 to 2000 GeV per AMU. *John M. Grunsfeld, Jacques L'Heureux, Peter Meyer, Dietrich Müller, & Simon P. Swordy.* 327, L31, 53-C9 (1988)

Characteristics of Energetic Solar Flare Electron Spectra. *Dan Moses, Wolfgang Dröge, Peter Meyer, & Paul Evenson.* 346, 523, 172-F1 (1989)

Relative Abundances of Secondary and Primary Cosmic Rays at High Energies. *Simon P. Swordy, Dietrich Müller, Peter Meyer, Jacques L'Heureux, & John M. Grunsfeld.* 349, 625, 23-A9 (1990)

Solar Neutron Decay Proton Observations in Cycle 21. *Paul Evenson, Richard Kroeger, Peter Meyer, & Donald Reames.* 73, 272, 21-D13 (1990)

A 153 Day Periodicity in the Occurrence of Solar Flares Producing Energetic Interplanetary Electrons. *Wolfgang Dröge, Kenneth Gibbs, John M. Grunsfeld, Peter Meyer, Brian J. Newport, Paul Evenson, & Dan Moses.* 73, 279, 21-E7 (1990)

MEYER, S. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng,*

T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright. 360, 685, 154-F1 (1990)

MEYER, S. S. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

MEYER, STEPHAN. Measurements of the Anisotropy of the Cosmic Background Radiation and Diffuse Galactic Emission at Millimeter and Submillimeter Wavelengths. *Mark Halpern, Richard Benford, Stephan Meyer, Dirk Muehlner, & Rainer Weiss.* 332, 596, 130-F12 (1988)

MEYER, STEPHAN S. A Large-Scale Cosmic Microwave Background Anisotropy Measurement at Millimeter and Submillimeter Wavelengths. *Lyman A. Page, Edward S. Cheng, & Stephan S. Meyer.* 355, L1, 92-A7 (1990)

MEYLAN, G. Discovery of a Probable Binary Quasar. *S. Djorgovski, R. Perley, G. Meylan, & P. McCarthy.* 321, L17, 129-C6 (1987)

A Preliminary Survey of Collapsed Cores in the Magellanic Clouds' Globular Clusters. *G. Meylan & S. Djorgovski.* 322, L91, 152-C10 (1987)

On the Individual Masses of Globular Clusters in the Magellanic Clouds: NGC 1835. *G. Meylan.* 331, 718, 116-F6 (1988)

UM 425: A New Gravitational Lens Candidate. *G. Meylan & S. Djorgovski.* 338, L1, 40-B6 (1989)

MEYLAN, THOMAS. Spectroscopy of the Optical Photosphere of the Hot Pulsating Star BW Vulpeculae. *Ingemar Furenlid, Arthur Young, Thomas Meylan, Chester Haag, & Greg Crinklaw.* 319, 264, 95-G9 (1987)

MEYLAN, TOM. An Abundance Analysis of α Centauri A. *Ingemar Furenlid & Tom Meylan.* 350, 827, 36-C1 (1990)

MEZZETTI, M. The Luminosity-Diameter Relations of Elliptical Galaxies in Different Environments. *G. Giuricin, F. Mardirossian, M. Mezzetti, & A. Pisani.* 345, 101, 150-C7 (1989)

The Radio Properties of Bright Seyfert Galaxies. *G. Giuricin, F. Mardirossian, M. Mezzetti, & G. Bertotti.* 72, 551, 10-B5 (1990)

The Tully-Fisher Relation in Different Environments. *A. Biviano, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 74, 325, 35-B1 (1990)

MI, GUOZHU. The Atmospheric Structure of the O-Type Giant Krzemiński's Star and the Mass of Its Companion Neutron Star Centaurus X-3. *George W. Clark, Joseph R. Minato, & Guozhu Mi.* 324, 974, 14-B14 (1988)

MICELA, G. The *Einstein Observatory* Survey of Stars in the Hyades Cluster Region. *G. Micela, S. Sciortino, G. S. Vaiana, J. H. M. M. Schmitt, R. A. Stern, F. R. Harnden, Jr., & R. Rosner.* 325, 798, 29-C8 (1988)

X-Ray Studies of Coeval Star Samples. II. The Pleiades Cluster as Observed with the *Einstein Observatory*. *G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., R. Rosner, & J. H. M. M. Schmitt.* 348, 557, 9-E6 (1990)

X-Ray Studies of Coeval Star Samples. III. X-Ray Emission in the Ursa Major Stream. *J. H. M. M. Schmitt, G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 351, 492, 46-B11 (1990)

MICHALITSIANOS, A. G. Evidence for Extended Radio Emission Surrounding RX Puppis. *J. M. Hollis, R. J. Oliversen, M. Kafatos, & A. G. Michalitsianos.* 301, 877, 24-C4 (1986)

Sub–Arc Second 2 Centimeter Continuum and SiO Spectral Line Observations of R Aquarii. *J. M. Hollis, A. G. Michalitsianos, M. Kafatos, M. C. H. Wright, & W. J. Welch.* 309, L53, 125-G2 (1986)

Ultraviolet Variability and Mass Expulsion from R Aquarii. *M. Kafatos, A. G. Michalitsianos, & J. M. Hollis.* 62, 853, 43-C4 (1986)

The Large-Scale Radio Structure of R Aquarii. *J. M. Hollis, M. Kafatos, A. G. Michalitsianos, R. J. Oliversen, & F. Yusef-Zadeh.* 321, L55, 129-F6 (1987)

The C IV Doublet Ratio Intensity Effect in Symbiotic Stars. *A. G. Michalitsianos, M. Kafatos, R. P. Fahey, R. Viotti, A. Cassatella, & A. Altamore.* 331, 477, 111-F1 (1988)

RX Puppis: Detection of Asymmetrical Radio Structure. *J. M. Hollis, F. Yusef-Zadeh, T. J. Cornwell, R. J. Oliversen, A. G. Michalitsianos, & M. Kafatos.* 337, 514, 23-G9 (1989)

Sanduleak's Star (LMC Anonymous): Its Similarity in the Far-Ultraviolet with the Luminous Object η Carinae and SN 1987A. *A. G. Michalitsianos, M. Kafatos, & S. N. Shore.* 341, 367, 88-C11 (1989)

R Aquarii: Evidence for a Two-sided Radio Jet and a Circumbinary SiO Maser. *M. Kafatos, J. M. Hollis, F. Yusef-Zadeh, A. G. Michalitsianos, & M. Elitzur.* 346, 991, 179-D9 (1989)

Comparisons of SiO Maser and Long-Period Variable Positions in the R Aquarii and Omicron Ceti Binary Systems. *J. M. Hollis, M. C. H. Wright, W. J. Welch, P. R. Jewell, H. E. Crull, Jr., M. Kafatos, & A. G. Michalitsianos.* 361, 663, 166-C12 (1990)

MICHALITSIANOS, ANDREW G. Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 320, 159, 109-F12 (1987)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds: Erratum. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 326, 1040, 45-A9 (1988) (Orig. paper in 320, 159, 109-F12 (1987))

An Extremely Carbon-poor Planetary Nebula in the Small Magellanic Cloud. *Stephen J. Meatheringham, Stephen P. Maran, Theodore P. Stecher, Andrew G. Michalitsianos, Theodore R. Gull, Lawrence H. Aller, & Charles D. Keyes.* 361, 101, 158-C5 (1990)

MICHAUD, G. Diffusion Coefficients for Stellar Plasmas. *C. Paquette, C. Pelletier, G. Fontaine, & G. Michaud.* 61, 177, 18-G5 (1986)

Diffusion in White Dwarfs: New Results and Comparative Study. *C. Paquette, C. Pelletier, G. Fontaine, & G. Michaud.* 61, 197, 19-A10 (1986)

Carbon Pollution in Helium-rich White Dwarf Atmospheres: Time-dependent Calculations of the Dredge-up Process. *C. Pelletier, G. Fontaine, F. Wesemael, G. Michaud, & G. Wegner.* 307, 242, 97-F4 (1986)

Mass Loss in A and F Stars: The λ Bootis Stars. *G. Michaud & Y. Charland.* 311, 326, 149-F3 (1986)

Selective Mass Loss, Abundance Anomalies, and Helium-rich Stars. *G. Michaud, J. Dupuis, G. Fontaine, & T. Montmerle.* 322, 302, 141-B7 (1987)

Studies of Hot B Subdwarfs. VI. Detailed Calculations of Radiative Forces on Metals in the Envelopes and Atmospheres of Hydrogen-rich Subdwarfs. *P. Bergeron, F. Wesemael, G. Michaud, & G. Fontaine.* 332, 964, 135-A7 (1988)

Studies of Hot B Subdwarfs. VII. Non–LTE Radiative Acceleration of Helium in the Atmospheres of sdOB Stars. *G. Michaud, P. Bergeron, U. Heber, & F. Wesemael.* 338, 417, 38-B1 (1989)

Abundance Anomalies in Hot Horizontal-Branch Stars of the Globular Cluster NGC 6752. *J. W. Glaspey, G. Michaud, A. F. J. Moffat, & S. Demers.* 339, 926, 63-C1 (1989)

MICHAUD, GEORGES. The Lithium Abundance Gap in the Hyades F Stars: The Signature of Diffusion. *Georges Michaud.* 302, 650, 37-F9 (1986)

Two-dimensional Particle Transport in HgMn and FmAm Stars. *Paul Charbonneau & Georges Michaud.* 327, 809, 57-D14 (1988)

Meridional Circulation and the Lithium Abundance Gap in F Stars. *Paul Charbonneau & Georges Michaud.* 334, 746, 164-F4 (1988)

Abundance Anomalies in A and B Stars and the Accretion of Nuclear-processed Material from Supernovae and Evolved Giants. *Charles R. Proffitt & Georges Michaud.* 345, 998, 163-A1 (1989)

Pre–Main-Sequence Depletion of ^{6}Li and ^{7}Li. *Charles R. Proffitt & Georges Michaud.* 346, 976, 179-C8 (1989)

Lithium Abundance in Cluster Giants: Constraints on Meridional Circulation Transport on the Main Sequence. *Paul Charbonneau, Georges Michaud, & Charles R. Proffitt.* 347, 821, 193-E7 (1989)

Turbulence and the Li Abundance in Main-Sequence and Giant Stars. *Paul Charbonneau & Georges Michaud.* 352, 681, 59-D9 (1990)

MICHEL, APRIL. A Double-lobed Radio Galaxy with Spiral Structure? *S. M. Simkin & April Michel.* 300, L5, 7-A8 (1986)

MICHEL, F. CURTIS. Pulsar Activation by the Interstellar Medium? *F. Curtis Michel.* 312, 271, 3-G8 (1987)
Electromagnetic Jets from Compact Objects. *F. Curtis Michel.* 321, 714, 132-C13 (1987)
A Pulsar Emission Model: Observational Tests. *F. Curtis Michel.* 322, 822, 148-G2 (1987)
"Tertiary" Nuclear Burning: Neutron Star Deflagration? *F. Curtis Michel.* 327, L81, 61-D13 (1988)
MICHELSON, P. F. Search for Millisecond X-Ray Pulsations from the Galactic Bulge X-Ray Source GX 9+1. *P. Hertz, J. P. Norris, K. S. Wood, B. A. Vaughan, & P. F. Michelson.* 354, 267, 77-D7 (1990)
Independence of Short Time Scale Fluctuations of Quasi-periodic Oscillations and Low-Frequency Noise in GX 5–1. *J. P. Norris, P. Hertz, K. S. Wood, B. A. Vaughan, P. F. Michelson, K. Mitsuda, & T. Dotani.* 361, 514, 164-E1 (1990)
MICHELSON, PETER. Determining the Properties of Accretion-Gap Neutron Stars. *Włodzimierz Kluźniak, Peter Michelson, & Robert V. Wagoner.* 358, 538, 130-C1 (1990)
MICKEY, D. L. Solar Coronal and Magnetic Field Observations near the Time of the 1988 March 18 Solar Eclipse. *D. G. Sime, R. R. Fisher, & D. L. Mickey.* 333, L103, 152-G6 (1988)
Far-Infrared Intensity Variations Caused by 5 Minute Oscillations. *C. Lindsey, G. Kopp, E. E. Becklin, T. Roellig, M. W. Werner, J. T. Jefferies, F. Q. Orrall, D. Braun, & D. L. Mickey.* 350, 475, 30-G1 (1990)
MIDDLEDITCH, J. Discovery of Rapid Quasi-periodic Oscillations in Scorpius X-1. *J. Middleditch & W. C. Priedhorsky.* 306, 230, 83-F13 (1986)
Bimodal Quasi-oscillatory and Spectral Behavior in Scorpius X-1. *W. Priedhorsky, G. Hasinger, W. H. G. Lewin, J. Middleditch, A. Parmar, L. Stella, & N. White.* 306, L91, 94-A10 (1986)
Optical Color, Polarimetric, and Timing Measurements of the 50 Millisecond Large Magellanic Cloud Pulsar, PSR 0540–69. *J. Middleditch, C. R. Pennypacker, & M. S. Burns.* 315, 142, 41-E8 (1987)
X-Ray Observations of the Galactic Center by *Spartan 1*. *N. Kawai, E. E. Fenimore, J. Middleditch, R. G. Cruddace, G. G. Fritz, W. A. Snyder, & M. P. Ulmer.* 330, 130, 91-D11 (1988)
A Third X-Ray Spectral Mode in Scorpius X-1: Similarities to the Other Bright Bulge Sources. *G. Hasinger, W. C. Priedhorsky, & J. Middleditch.* 337, 843, 29-D4 (1989)
Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)
Soft X-Ray Emission from the Radio Pulsar PSR 0656+14. *F. A. Córdova, R. M. Hjellming, K. O. Mason, & J. Middleditch.* 345, 451, 154-F8 (1989)
A 190 Second Periodicity in the Optical Emission of the Enigmatic X-Ray Source GX 339–4. *T. Steiman-Cameron, J. Imamura, J. Middleditch, & J. Kristian.* 359, 197, 136-E1 (1990)
Deep Radio Synthesis Images of Globular Clusters. *S. R. Kulkarni, W. M. Goss, A. Wolszczan, & J. Middleditch.* 363, L5, 187-A10 (1990)
Spartan 1 X-Ray Observations of the Perseus Cluster. II. The Distribution of Flux and Hardness Ratio Out to a Radius of 50 Arcminutes. *W. A. Snyder, M. P. Kowalski, R. G. Cruddace, G. G. Fritz, J. Middleditch, E. E. Fenimore, M. P. Ulmer, & S. R. Majewski.* 365, 460, 213-F8 (1990)
MIDDLEDITCH, J. H. A Search for Optical Millisecond Pulsars in Globular Clusters. *J. H. Middleditch, J. N. Imamura, & T. Y. Steiman-Cameron.* 335, 753, 181-A1 (1988)
MIDDLEDITCH, JOHN. A Possible 1.13 Millisecond Periodicity in GX 339–4. *James N. Imamura, Thomas Y. Steiman-Cameron, & John Middleditch.* 314, L11, 33-B13 (1987)
Rapid Optical Flaring in MXB 1735–444 and an Optical Burst from GX 17+2. *James N. Imamura, Thomas Y. Steiman-Cameron, & John Middleditch.* 320, L41, 114-D3 (1987)
The 8 Second Optical Quasi-periodic Oscillations in GX 339–4. *James N. Imamura, Jerome Kristian, John Middleditch, & Thomas Y. Steiman-Cameron.* 365, 312, 210-C5 (1990)
MIELBRECHT, RICHARD A. Duplicity among Stars with Strong Chromospheric Ca II Emission Lines: A Statistical Survey. *Arthur Young, Richard A. Mielbrecht, & Helmut A. Abt.* 317, 787, 74-F1 (1987)
MIGENES, V. The Spatial Distribution of the OH Masers in Orion-KL. *K. J. Johnston, V. Migenes, & R. Norris.* 341, 847, 95-F2 (1989)
The Distribution and Kinematics of Ammonia in the Orion-KL Nebula: High-Sensitivity VLA Maps of the $NH_3(3,2)$ Line. *V. Migenes, K. J. Johnston, T. A. Pauls, & T. L. Wilson.* 347, 294, 185-F8 (1989)
MIGLIUOLO, S. The Magnetohydrodynamic Stability of Coronal Arcades. III. Sheared Equilibrium Fields. *P. J. Cargill, A. W. Hood, & S. Migliuolo.* 309, 402, 124-C7 (1986)
MIHALAS, BARBARA WEIBEL. The Equation of State for Stellar Envelopes. III. Thermodynamic Quantities. *Werner Däppen, Dimitri Mihalas, D. G. Hummer, & Barbara Weibel Mihalas.* 332, 261, 126-A8 (1988)
The Equation of State for Stellar Envelopes. IV. Thermodynamic Quantities and Selected Ionization Fractions for Six Elemental Mixes. *Dimitri Mihalas, D. G. Hummer, Barbara Weibel Mihalas, & Werner Däppen.* 350, 300, 28-F7 (1990)
MIHALAS, DIMITRI. Statistical Mechanics of Partially Ionized Stellar Plasmas: The Planck-Larkin Partition Function, Polarization Shifts, and Simulations of Optical Spectra. *Werner Däppen, Lawrence Anderson, & Dimitri Mihalas.* 319, 195, 95-B6 (1987)
The Equation of State for Stellar Envelopes. I. An Occupation Probability Formalism for the Truncation of Internal Partition Functions. *D. G. Hummer & Dimitri Mihalas.* 331, 794, 117-F1 (1988)
The Equation of State for Stellar Envelopes. II. Algorithm and Selected Results. *Dimitri Mihalas, Werner Däppen, & D. G. Hummer.* 331, 815, 117-G8 (1988)
The Equation of State for Stellar Envelopes. III. Thermodynamic Quantities. *Werner Däppen, Dimitri Mihalas, D. G. Hummer, & Barbara Weibel Mihalas.* 332, 261, 126-A8 (1988)
The Equation of State for Stellar Envelopes. IV. Thermodynamic Quantities and Selected Ionization Fractions for Six Elemental Mixes. *Dimitri Mihalas, D. G. Hummer, Barbara Weibel Mihalas, & Werner Däppen.* 350, 300, 28-F7 (1990)
MIHARA, T. Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)
MIKAMI, Y. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)
MIKIĆ, Z. Dynamical Evolution of a Solar Coronal Magnetic Field Arcade. *Z. Mikić, D. C. Barnes, & D. D. Schnack.* 328, 830, 72-C4 (1988)
Creation of Current Filaments in the Solar Corona. *Z. Mikić, D. D. Schnack, & G. Van Hoven.* 338, 1148, 47-G4 (1989)
Dynamical Evolution of Twisted Magnetic Flux Tubes. I. Equilibrium and Linear Stability. *Z. Mikić, D. D. Schnack, & G. Van Hoven.* 361, 690, 166-F1 (1990)
MIKKOLA, S. The Slingshot Ejections in Merging Galaxies. *S. Mikkola & M. J. Valtonen.* 348, 412, 7-F4 (1990)
MILEY, G. K. Quasars Measured by the *Infrared Astronomical Satellite*. *G. Neugebauer, G. K. Miley, B. T. Soifer, & P. E. Clegg.* 308, 815, 117-G7 (1986)
Far-Infrared Excesses from E/S0 Galaxies with Compact Radio Cores. *J. M. Wrobel, G. Neugebauer, & G. K. Miley.* 310, L11, 138-A14 (1986)
Galaxy Collisions and Mergers: The Genesis of Very Powerful Radio Sources? *T. M. Heckman, Eric P. Smith, Stefi A. Baum, W. J. M. van Breugel, G. K. Miley, G. D. Illingworth, G. D. Bothun, & B. Balick.* 311, 526, 153-D2 (1986)

The Detection of Wolf-Rayet Stars in a Very Powerful Far-Infrared Galaxy: Direct Evidence for a Starburst. *L. Armus, T. M. Heckman, & G. K. Miley.* 326, L45, 46-B1 (1988)

4C 40.36: A Radio Galaxy at a Redshift of 2.3. *K. C. Chambers, G. K. Miley, & W. J. M. van Breugel.* 327, L47, 61-B7 (1988)

2.2 Micron Image of 3C 368 at $z=1.13$, a Galaxy with Aligned Radio and Stellar Axes. *K. C. Chambers, G. K. Miley, & R. R. Joyce.* 329, L75, 89-C2 (1988)

Superluminal Motion in the Giant Quasar 4C 34.47. *P. D. Barthel, J. R. Hooimeyer, R. T. Schilizzi, G. K. Miley, & E. Preuss.* 336, 601, 10-A9 (1989)

A Millimeter-Wave Survey of CO Emission in Seyfert Galaxies. *T. M. Heckman, L. Blitz, A. S. Wilson, L. Armus, & G. K. Miley.* 342, 735, 111-E4 (1989)

Polarization of the Jet of PKS 0521−36. *W. B. Sparks, G. K. Miley, & F. Macchetto.* 361, L41, 168-B6 (1990)

4C 41.17: A Radio Galaxy at a Redshift of 3.8. *K. C. Chambers, G. K. Miley, & W. J. M. van Breugel.* 363, 21, 182-D1 (1990)

MILEY, GEORGE. Extended Optical Line Emitting Gas in Radio Galaxies: Broad-Band Optical, Narrow-Band Optical, and Radio Imaging of a Representative Sample. *Stefi A. Baum, Timothy Heckman, Alan Bridle, Wil van Breugel, & George Miley.* 68, 643, 33-B1 (1988)

MILEY, GEORGE K. 4C 29.30: Extended Optical Line and Radio Emission in a Probable Galaxy Merger. *Wil J. M. van Breugel, Timothy M. Heckman, George K. Miley, & Alexei V. Filippenko.* 311, 58, 146-E8 (1986)

Infrared-selected "Warm" Galaxies Observed in X-Rays. *Paul J. Green, Martin Ward, Scott F. Anderson, Bruce Margon, M. H. K. DeGrijp, & George K. Miley.* 339, 93, 51-B14 (1989)

Long-Slit Optical Spectroscopy of Powerful Far-Infrared Galaxies: The Nature of the Nuclear Energy Source. *Lee Armus, Timothy M. Heckman, & George K. Miley.* 347, 727, 192-D1 (1989)

The Optical Emission-Line Nebulae of Powerful Far-Infrared Galaxies. *Lee Armus, Timothy M. Heckman, & George K. Miley.* 364, 471, 201-G11 (1990)

On the Nature and Implications of Starburst-driven Galactic Superwinds. *Timothy M. Heckman, Lee Armus, & George K. Miley.* 74, 833, 43-B7 (1990)

MILGROM, M. The Magnitude of ^{3}He Diffusion in the Sun. *A. Loeb, J. N. Bahcall, & M. Milgrom.* 341, 1108, 98-G9 (1989)

MILGROM, MORDEHAI. The Radiative Acceleration of Astrophysical Jets: Line Locking in SS 433. *Paul R. Shapiro, Mordehai Milgrom, & Martin J. Rees.* 60, 393, 6-A5 (1986)

Solutions for the Modified Newtonian Dynamics Field Equation. *Mordehai Milgrom.* 302, 617, 37-D2 (1986)

Can the Hidden Mass Be Negative? *Mordehai Milgrom.* 306, 9, 81-A14 (1986)

Concerning the Limit on the Mean Mass Distribution of Galaxies from Their Gravitational Lens Effect. *Israel Kovner & Mordehai Milgrom.* 321, L113, 137-B5 (1987)

What Shells around NGC 3923 Tell Us about the Modified Dynamics. *Mordehai Milgrom.* 332, 86, 124-A9 (1988)

On the Use of Galaxy Rotation Curves to Test the Modified Dynamics. *Mordehai Milgrom.* 333, 689, 147-F7 (1988)

The Rotation Curve of DDO 154: A Particularly Acute Test of the Modified Dynamics. *Mordehai Milgrom & Erez Braun.* 334, 130, 155-F1 (1988)

Light Reprocessing in the Echo Model of Luminous Arcs. *Erez Braun & Mordehai Milgrom.* 337, 644, 27-A9 (1989)

On Stability of Galactic Disks in the Modified Dynamics and the Distribution of Their Mean Surface-Brightness. *Mordehai Milgrom.* 338, 121, 34-E1 (1989)

A Non–Steady State Line Locking in Broad Absorption Line Quasi-stellar Objects. *Erez Braun & Mordehai Milgrom.* 342, 100, 102-C1 (1989)

A Variable Flow as the Underpinning of Broad Absorption Lines in Quasi-stellar Objects. *Erez Braun & Mordehai Milgrom.* 349, L35, 24-A10 (1990)

MILLAR, T. J. Deuterium Fractionation in Dense Interstellar Clouds. *T. J. Millar, A. Bennett, & Eric Herbst.* 340, 906, 79-F1 (1989)

MILLER, BRUCE N. Gravity in One Dimension: Selective Relaxation? *Charles J. Reidl, Jr., & Bruce N. Miller.* 318, 248, 81-E10 (1987)

Gravity in One Dimension: Quasi-Equilibrium. *Charles J. Reidl, Jr., & Bruce N. Miller.* 332, 619, 131-A8 (1988)

Gravity in One Dimension: Persistence of Correlation. *Bruce N. Miller & Charles J. Reidl, Jr.* 348, 203, 3-E1 (1990)

MILLER, G. S. Deceleration of Infalling Plasma in the Atmospheres of Accreting Neutron Stars. I. Isothermal Atmospheres. *G. S. Miller, E. E. Salpeter, & I. Wasserman.* 314, 215, 30-D13 (1987)

MILLER, GUY. The Deceleration of Infalling Plasma in Magnetized Neutron Star Atmospheres: Nonisothermal Atmospheres. *Guy Miller, Ira Wasserman, & Edwin E. Salpeter.* 346, 405, 171-B4 (1989)

MILLER, GUY S. Spherically Symmetric Near-critical Accretion onto Neutron Stars. *Guy S. Miller.* 356, 572, 107-D1 (1990)

MILLER, H. R. Observations of Three BL Lacertae Objects: Constraints on Inhomogeneous Relativistically Beamed Jet Models. *D. M. Worrall, J. M. Rodríguez-Espinosa, W. Z. Wiśniewski, H. R. Miller, F. C. Bruhweiler, M. F. Aller, & H. D. Aller.* 303, 589, 49-A2 (1986)

MILLER, H. RICHARD. A Study of the Eclipsing Cataclysmic Variable Lanning 90. *Peter M. Garnavich, Paula Szkody, Mario Mateo, Laurie Feinswog, John Booth, Bret Goodrich, H. Richard Miller, Michael T. Carini, & John W. Wilson.* 365, 696, 216-G13 (1990)

MILLER, J. A. Ion and Relativistic Electron Transport in Solar Flares. *R. Ramaty, J. A. Miller, X.-M. Hua, & R. E. Lingenfelter.* 73, 199, 20-D9 (1990)

MILLER, J. L. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

MILLER, J. S. Spectropolarimetry of the Unusual High-Polarization Quasar OI 287. *R. W. Goodrich & J. S. Miller.* 331, 332, 109-G8 (1988)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

Spectropolarimetry of Cygnus A and the Scattering Model for the Extended Continuum. *Robert W. Goodrich & J. S. Miller.* 346, L21, 173-C5 (1989)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

Spectropolarimetry of High-Polarization Seyfert 2 Galaxies and Unified Seyfert Theories. *J. S. Miller & R. W. Goodrich.* 355, 456, 94-B1 (1990)

Do the Broad Emission Lines in Arp 102B Arise in a Relativistic Disk? *J. S. Miller & B. M. Peterson.* 361, 98, 158-C1 (1990)

MILLER, JACK. Nonlinear Convection of a Compressible Fluid in a Rotating Spherical Shell. *Peter A. Gilman & Jack Miller.* 61, 585, 25-B14 (1986)

MILLER, JAMES A. Relativistic Electron Transport and Bremsstrahlung Production in Solar Flares. *James A. Miller & Reuven Ramaty.* 344, 973, 146-B3 (1989)

Stochastic Fermi Acceleration in Solar Flares. *James A. Miller, Nidhal Guessoum, & Reuven Ramaty.* 361, 701, 166-G1 (1990)

MILLER, JOHN. The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

MILLER, JOHN M. The Area of Isodensity Contours in Cosmological Models and Galaxy Surveys. *Barbara S. Ryden, Adrian L. Melott, David A. Craig, J. Richard Gott III, David H. Weinberg, Robert J. Scherrer, Suketu P. Bhavsar, & John M. Miller.* 340, 647, 76-E1 (1989)

MILLER, R. H. On the Formation of Galaxies with Flat Rotation Curves. *B. F. Smith & R. H. Miller.* 309, 522, 127-A1 (1986)
Dwarf Spheroidal Galaxies and Resonant Orbital Coupling. *J. R. Kuhn & R. H. Miller.* 341, L41, 99-E10 (1989)
Numerical Experiments on the Oscillations of a Rotating, Axisymmetric Galaxy. *R. H. Miller, Peter O. Vandervoort, Daniel E. Welty, & B. F. Smith.* 342, 105, 102-C6 (1989)
MILLER, STEVEN. Calculated Rotational and Rovibrational Transitions in the Spectrum of H_3^+. *Steven Miller & Jonathan Tennyson.* 335, 486, 176-B5 (1988)
Infrared Emissions of H_3^+ in the Atmosphere of Jupiter in the 2.1 and 4.0 Micron Region. *Steven Miller, Robert D. Joseph, & Jonathan Tennyson.* 360, L55, 156-E1 (1990)
MILLIS, ROBERT L. An Investigation of the Nucleus and Coma of Comet P/Arend-Rigaux. *Robert L. Millis, Michael F. A'Hearn, & Humberto Campins.* 324, 1194, 16-F7 (1988)
Revised Scale Lengths for Cometary NH. *David G. Schleicher & Robert L. Millis.* 339, 1107, 65-C8 (1989)
The Nucleus of Comet P/Tempel 2. *Michael F. A'Hearn, Humberto Campins, David G. Schleicher, & Robert L. Millis.* 347, 1155, 198-A4 (1989)
MILLS, F. The Structure of Io's Thermal Corona and Implications for Atmospheric Escape. *M. E. Summers, D. F. Strobel, Y. L. Yung, J. T. Trauger, & F. Mills.* 343, 468, 123-G5 (1989)
MILLS, R. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)
MILLYARD, KAI. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)
MILNE, D. K. Symmetry of the Radio Emission from Two High-Latitude Supernova Remnants, G296.5+10.0 and G324.7+14.6 (SN 1006). *R. S. Roger, D. K. Milne, M. J. Kesteven, K. J. Wellington, & R. F. Haynes.* 332, 940, 134-F7 (1988)
MILNE, DOUGLAS K. Comparative Morphological Analysis of Puppis A at Radio, Infrared, Optical, and X-Ray Wavelengths. *Richard G. Arendt, Eli Dwek, Robert Petre, John R. Dickel, Robert S. Roger, Douglas K. Milne, & Michael J. Kesteven.* 350, 266, 28-C6 (1990)
MILONE, E. F. Ground-based and *IRAS* Observations of Compact Planetary Nebulae. *Sun Kwok, Bruce J. Hrivnak, & E. F. Milone.* 303, 451, 46-A11 (1986)
The O'Connell Effect Systems CX Canis Majoris, TU Crucis, AQ Monocerotis, and DQ Velorum. *E. F. Milone.* 61, 455, 23-D1 (1986)
RW Comae Berenices. III. Light Curve Solution and Absolute Parameters. *E. F. Milone, R. E. Wilson, & B. J. Hrivnak.* 319, 325, 96-E3 (1987)
MINATO, JOSEPH R. The Atmospheric Structure of the O-Type Giant Krzemiński's Star and the Mass of Its Companion Neutron Star Centaurus X-3. *George W. Clark, Joseph R. Minato, & Guozhu Mi.* 324, 974, 14-B14 (1988)
MINEO, T. Observation of the Vela Pulsar, PSR 0833−45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)
Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)
Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)
MINESHIGE, S. Accretion Disk Thermal Instability in Galactic Nuclei. *S. Mineshige & G. A. Shields.* 351, 47, 38-E11 (1990)
Structure and Evolution of Irradiated Accretion Disks. I. Static Thermal Equilibrium Structure. *Y. Tuchman, S. Mineshige, & J. C. Wheeler.* 359, 164, 136-B1 (1990)
Structure and Evolution of Irradiated Accretion Disks. II. Dynamical Evolution of a Thermally Unstable Torus. *S. Mineshige, Y. Tuchman, & J. C. Wheeler.* 359, 176, 136-C1 (1990)
MINESHIGE, SHIN. Modulated Mass-Transfer Model for Superhumps in SU Ursae Majoris Stars. *Shin Mineshige.* 335, 881, 182-C11 (1988)
Disk-Instability Model for Soft X-Ray Transients Containing Black Holes. *Shin Mineshige & J. Craig Wheeler.* 343, 241, 121-B14 (1989)
Magnetic Model for Asymmetric Supernova Remnants. *Shin Mineshige & Kazunari Shibata.* 355, L47, 98-D8 (1990)
Time-dependent X-Ray Emission from Unstable Accretion Disks around Black Holes. *Shin Mineshige, Soon-Wook Kim, & J. Craig Wheeler.* 358, L5, 127-A11 (1990)
MINH, Y. Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews, Y. Minh, S. Saito, N. Ukita, & S. Yamamoto.* 342, 871, 113-B5 (1989)
MINH, Y. C. Observations of Interstellar $HOCO^+$: Abundance Enhancements toward the Galactic Center. *Y. C. Minh, W. M. Irvine, & L. M. Ziurys.* 334, 175, 156-C1 (1988)
Detection of Interstellar Hydrogen Sulfide in Cold, Dark Clouds. *Y. C. Minh, W. M. Irvine, & L. M. Ziurys.* 345, L63, 157-F5 (1989)
Detection of Nitric Oxide in the Dark Cloud L134N. *D. McGonagle, L. M. Ziurys, W. M. Irvine, & Y. C. Minh.* 359, 121, 135-E5 (1990)
Observations of H_2S toward OMC-1. *Y. C. Minh, L. M. Ziurys, W. M. Irvine, & D. McGonagle.* 360, 136, 146-F9 (1990)
MINNITI, DANTE. Washington Photometry of the Very Metal Poor Globular Cluster M68. *Dante Minniti & Juan J. Clariá.* 341, 186, 86-C1 (1989)
MIRABEL, I. F. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)
OH Outflows in Star-forming Regions. *I. F. Mirabel, A. Ruiz, L. F. Rodríguez, & J. Cantó.* 318, 729, 89-A1 (1987)
Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)
OH Megamasers in High-Luminosity IRAS Galaxies. *I. F. Mirabel & D. B. Sanders.* 322, 688, 147-C8 (1987)
Detection of H I, OH, CO, and Optical Imaging of the Distant Galaxy IRAS 12112+0305. *I. F. Mirabel, I. Kazès, & D. B. Sanders.* 324, L59, 18-C6 (1988)
Neutral Stellar Winds That Drive Bipolar Outflows in Low-Mass Protostars. *Susana Lizano, Carl Heiles, Luis F. Rodríguez, Bon-Chul Koo, Frank H. Shu, T. Hasegawa, S. Hayashi, & I. F. Mirabel.* 328, 763, 71-D7 (1988)
On the Origin of the Orion and Monoceros Molecular Cloud Complexes. *J. Franco, G. Tenorio-Tagle, P. Bodenheimer, M. Różyczka, & I. F. Mirabel.* 333, 826, 149-D1 (1988)
21 Centimeter Survey of Luminous Infrared Galaxies. *I. F. Mirabel & D. B. Sanders.* 335, 104, 171-D5 (1988)
Molecular Gas in the Powerful Radio Galaxies Perseus A and 4C 12.50. *I. F. Mirabel, D. B. Sanders, & I. Kazès.* 340, L9, 75-D1 (1989)
Atomic Hydrogen in the Powerful Radio-Infrared Galaxies 4C 12.50 and 3C 433. *I. F. Mirabel.* 340, L13, 75-D6 (1989)
The Ratio of Molecular to Atomic Gas in Infrared Luminous Galaxies. *I. F. Mirabel & D. B. Sanders.* 340, L53, 83-B5 (1989)
Anomalous OH Emission in Galactic Star-forming Regions: A Clue to the Megamaser Phenomenon? *I. F. Mirabel, L. F. Rodríguez, & A. Ruiz.* 346, 180, 168-C11 (1989)

Large Proper Motions in the Remarkable Triple Radio Source in Serpens. *L. F. Rodríguez, S. Curiel, J. M. Moran, I. F. Mirabel, M. Roth, & G. Garay.* 346, L85, 181-D9 (1989)

Atomic Hydrogen in Radio Galaxies: A High-Velocity Cloud Moving toward the Giant Elliptical 4C 31.04. *I. F. Mirabel.* 352, L37, 61-C1 (1990)

Cloud–Milky Way Collisions in the Outer Galaxy. *I. F. Mirabel & R. Morras.* 356, 130, 100-F1 (1990)

VLA Observations of High-Velocity H I Associated with the Herbig-Haro Objects 7–11. *L. F. Rodríguez, S. Lizano, J. Cantó, V. Escalante, & I. F. Mirabel.* 365, 261, 209-F5 (1990)

MIRABEL, I. FÉLIX. The Peculiar Galaxy IC 4553. II. VLA Observations of the Neutral Hydrogen. *Willem A. Baan, J. H. van Gorkom, Joan T. Schmelz, & I. Félix Mirabel.* 313, 102, 16-B7 (1987)

VLA Observations of the High-Velocity Bipolar OH Absorption in L1551. *Luis F. Rodríguez, Jorge Cantó, I. Félix Mirabel, & Abraham Ruiz.* 337, 712, 27-G1 (1989)

MIRALDA-ESCUDÉ, J. Thermal Structure of Accreting Neutron Stars and Strange Stars. *J. Miralda-Escudé, P. Haensel, & B. Paczyński.* 362, 572, 177-G9 (1990)

MIRALDA-ESCUDÉ, JORDI. On the Orbit Structure of the Logarithmic Potential. *Jordi Miralda-Escudé & M. Schwarzschild.* 339, 752, 61-B5 (1989)

What Produces the Ionizing Background at Large Redshift? *Jordi Miralda-Escudé & Jeremiah P. Ostriker.* 350, 1, 25-B1 (1990)

MIRALLES, JUAN A. Field Theoretical Model for Nuclear and Neutron Matter. IV. Radial Oscillations of Warm Cores in Neutron Stars. *José Mª. Martí, Juan A. Miralles, J. Diaz Alonso, & José Mª. Ibáñez.* 329, 780, 85-E1 (1988)

MISKA, DOMINIQUE. Resonant Raman-Cyclotron Scattering in Very Strong Magnetic Fields. *Edouard Miska & Dominique Miska.* 317, 282, 67-A7 (1987)

MISKA, EDOUARD. Resonant Raman-Cyclotron Scattering in Very Strong Magnetic Fields. *Edouard Miska & Dominique Miska.* 317, 282, 67-A7 (1987)

MITALAS, R. Branching of the PP Chains. *R. Mitalas.* 325, 476, 24-D4 (1988)

Efficiency of Nuclear Energy Generation by Hydrogen Burning. *R. Mitalas.* 338, 308, 36-F5 (1989)

Effect of Mass Loss and Overshooting on the Width of the Main Sequence of Massive Stars. *Martin Beech & R. Mitalas.* 352, 291, 53-D12 (1990)

MITCHELL, D. L. On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 343, L77, 132-E5 (1989)

On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 349, L33, 19-D4 (1990) (Orig. paper in 343, L77, 132-E5 (1989))

The Identification of H_3S^+ with the Ion of Mass per Charge (m/q) 35 Observed in the Coma of Comet Halley. *M. L. Marconi, D. A. Mendis, A. Korth, R. P. Lin, D. L. Mitchell, & H. Reme.* 352, L17, 55-C1 (1990)

MITCHELL, GEORGE F. The Detection of High-Velocity Outflows from M8E-IR. *George F. Mitchell, Mark Allen, Reinhard Beer, Richard Dekany, Wesley Huntress, & Jean-Pierre Maillard.* 327, L17, 53-B6 (1988)

The Ratio of Solid to Gas Phase CO in the Line of Sight to W33A. *George F. Mitchell, Mark Allen, & Jean-Pierre Maillard.* 333, L55, 152-C10 (1988)

The Gas Environment of the Young Stellar Object GL 2591 Studied by Infrared Spectroscopy. *George F. Mitchell, Charles Curry, Jean-Pierre Maillard, & Mark Allen.* 341, 1020, 97-G1 (1989)

Hot and Cold Gas toward Young Stellar Objects. *George F. Mitchell, Jean-Pierre Maillard, Mark Allen, Reinhard Beer, & Kenneth Belcourt.* 363, 554, 191-A9 (1990)

MITCHELL, K. J. Confining Hot Spots in 3C 196: Implications for QSO–Companion Galaxies. *Robert L. Brown, J. J. Broderick, & K. J. Mitchell.* 306, 107, 82-D6 (1986)

Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)

The Size of the $z = 0.437$ H I Absorption Region toward the QSO 3C 196. *R. L. Brown, J. J. Broderick, K. J. Johnston, J. M. Benson, K. J. Mitchell, & E. B. Waltman.* 329, 138, 76-E3 (1988)

MITCHELL, KENNETH J. Faint Blue Objects at High Galactic Latitude. V. Palomar Schmidt Field Centered on Selected Area 71. *Peter D. Usher, Kenneth J. Mitchell, & Archibald Warnock III.* 66, 1, 1-A6 (1988)

Optical Variability of the Medium-bright Quasar Sample. *Ke-Liang Huang, Kenneth J. Mitchell, & Peter D. Usher.* 362, 33, 169-D11 (1990)

Faint Blue Objects at High Galactic Latitude. VI. Palomar Schmidt Field Centered on Selected Area 82. *Peter D. Usher & Kenneth J. Mitchell.* 74, 885, 43-F11 (1990)

MITRA, ABHAS. A Reevaluation of Self-Absorption of TeV Photon Flux from Cygnus X-3. *Abhas Mitra.* 339, 382, 54-G1 (1989)

Diffusive Shock Acceleration in the Presence of a Strong Ambient Magnetic Field. *Abhas Mitra.* 348, 221, 3-F7 (1990)

MITRA, BANASHREE. Observation of Low-Energy (30–100 MeV Nucleon^{-1}) Partially Ionized Heavy Ions in Galactic Cosmic Rays. *S. Biswas, N. Durgaprasad, Banashree Mitra, R. K. Singh, A. Dutta, & J. N. Goswami.* 359, L5, 138-A11 (1990)

MITROFANOV, I. Search for Linear Polarization in Gamma-Ray Sources: Possible Evidence for the Vela Pulsar. *P. A. Caraveo, G. F. Bignami, I. Mitrofanov, & G. Vacanti.* 327, 203, 49-B11 (1988)

MITSUDA, K. Simultaneous X-Ray and Optical Observations of GX 339–4 in an X-Ray High State. *K. Makishima, Y. Maejima, K. Mitsuda, H. V. Bradt, R. A. Remillard, I. R. Tuohy, R. Hoshi, & M. Nakagawa.* 308, 635, 116-A1 (1986)

Ginga Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

Independence of Short Time Scale Fluctuations of Quasi-periodic Oscillations and Low-Frequency Noise in GX 5–1. *J. P. Norris, P. Hertz, K. S. Wood, B. A. Vaughan, P. F. Michelson, K. Mitsuda, & T. Dotani.* 361, 514, 164-E1 (1990)

Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)

MITSUDA, KAZUHISA. *Ginga* Observations of the 50 Millisecond Pulsar PSR 0540–69. *Fumiaki Nagase, John Deeter, Wayne Lewis, Tadayasu Dotani, Fumiyoshi Makino, & Kazuhisa Mitsuda.* 351, L13, 43-C1 (1990)

Dust-Grain Scattering of X-Rays Observed during the Lunar Occultation of a Transient X-Ray Source near the Galactic Center. *Kazuhisa Mitsuda, Toshiaki Takeshima, Tsuneo Kii, & Nobuyuki Kawai.* 353, 480, 70-A6 (1990)

MITSUI, K. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

MIURA, Y. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase,*

M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration). 344, L17, 140-B9 (1989)

MIYAJI, SHIGEKI. Relaxation Oscillations of a Helium-burning Star: Helium Shell Flashes Not Triggered by the Accumulation of a Critical Mass. *Icko Iben, Jr., Masayuki Y. Fujimoto, Daiichiro Sugimoto, & Shigeki Miyaji.* 304, 217, 56-C8 (1986)

On the Collapse of 8–10 $M_\odot$ Stars Due to Electron Capture. *Shigeki Miyaji & Ken'ichi Nomoto.* 318, 307, 82-C2 (1987)

MIYAJI, TAKAMITSU. The X-Ray Flux Dipole of Active Galactic Nuclei and the Peculiar Motion of the Local Group. *Takamitsu Miyaji & Elihu Boldt.* 353, L3, 67-A11 (1990)

MIYAJI, TAKESHI. Detection of Intense Unidentified Lines in TMC-1. *Norio Kaifu, Hiroko Suzuki, Masatoshi Ohishi, Takeshi Miyaji, Shin-ichi Ishikawa, Takashi Kasuga, Masaki Morimoto, & Shuji Saito.* 317, L111, 78-E14 (1987)

MIYAMA, SHOKEN M. The Equilibria of Rotating Isothermal Clouds. *Masayoshi Kiguchi, Shinji Narita, Shoken M. Miyama, & Chushiro Hayashi.* 317, 830, 75-B5 (1987)

MIYAMOTO, S. A Scanning Modulation Collimator Observation of the High Energy X-Ray Source in the Crab Nebula. *R. M. Pelling, W. S. Paciesas, L. E. Peterson, K. Makishima, M. Oda, Y. Ogawara, & S. Miyamoto.* 319, 416, 97-F7 (1987)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

MIYAMURA, O. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

MIYANO, K. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

MIYATA, H. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

MIYAWAKI, R. The Structure of the W49A Molecular Cloud Complex: Burst of Star Formation in the 10^5 $M_\odot$ Core. *R. Miyawaki, M. Hayashi, & T. Hasegawa.* 305, 353, 71-A13 (1986)

The Bright-Rimmed Molecular Cloud around S140 IRS. II. Bipolar Outflow from S140 IRS 1. *M. Hayashi, T. Hasegawa, T. Omodaka, S. S. Hayashi, & R. Miyawaki.* 312, 327, 4-D10 (1987)

MIZUMOTO, Y. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)

MIZUNO, A. Discovery of Seven Bipolar Outflows by an Unbiased Survey. *Y. Fukui, K. Sugitani, H. Takaba, T. Iwata, A. Mizuno, H. Ogawa, & K. Kawabata.* 311, L85, 160-E12 (1986)

A Bipolar Outflow: L1641-North and Its Ambient Dense Cloud. *Y. Fukui, H. Takaba, T. Iwata, & A. Mizuno.* 325, L13, 25-B4 (1988)

Star Formation in Bright-rimmed Globules: Evidence for Radiation-driven Implosion. *K. Sugitani, Y. Fukui, A. Mizuno, & N. Ohashi.* 342, L87, 117-E5 (1989)

A Remarkable Multilobe Molecular Outflow: ρ Ophiuchi East, Associated with IRAS 16293–2422. *A. Mizuno, Y. Fukui, T. Iwata, S. Nozawa, & T. Takano.* 356, 184, 101-D1 (1990)

MIZUTANI, K. Infrared Spectroscopic Study of NGC 2024. *T. Maihara, K. Mizutani, & H. Suto.* 354, 549, 83-B9 (1990)

MIZUTANI, KOHEI. A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)

3.3 Micron Emission Feature in Galaxies. *Kohei Mizutani, Hiroshi Suto, & Toshinori Maihara.* 346, 675, 175-G1 (1989)

MOBARRY, C. M. Theory of Axisymmetric Magnetohydrodynamic Flows: Disks. *R. V. E. Lovelace, C. Mehanian, C. M. Mobarry, & M. E. Sulkanen.* 62, 1, 31-A5 (1986)

Magnetohydrodynamic Flows in Schwarzschild Geometry. *C. M. Mobarry & R. V. E. Lovelace.* 309, 455, 126-C1 (1986)

MOCHKOVITCH, ROBERT. The Final Stages of Evolution of Cold, Mass-accreting White Dwarfs. *Margarita Hernanz, Jordi Isern, Ramon Canal, Javier Labay, & Robert Mochkovitch.* 324, 331, 4-G3 (1988)

MOCK, PATRICK C. Deep Optical and Radio Searches for a Quiescent Counterpart to the Optical Transient Source OTS 1809+31. *George R. Ricker, Patrick C. Mock, Edward A. Ajhar, & Roland K. Vanderspek.* 338, 983, 46-B1 (1989)

MÖBIUS, E. The Mean Ionic Charge of Silicon in ^{3}He-rich Solar Flares. *A. Luhn, B. Klecker, D. Hovestadt, & E. Möbius.* 317, 951, 76-E2 (1987)

MÖBIUS, EBERHARD. Diffusive Shock Acceleration: Comparison of a Unified Shock Model to Bow Shock Observations. *Donald C. Ellison & Eberhard Möbius.* 318, 474, 84-B6 (1987)

Particle Injection and Acceleration at Earth's Bow Shock: Comparison of Upstream and Downstream Events. *Donald C. Ellison, Eberhard Möbius, & Götz Paschmann.* 352, 376, 54-E5 (1990)

MOFFAT, A. F. J. Spectroscopic and Polarimetric Parameters of the Runaway WN7 Binary System HD 197406: Is the Secondary an X-Ray–quiet Black Hole? *L. Drissen, R. Lamontagne, A. F. J. Moffat, P. Bastien, & M. Seguin.* 304, 188, 56-A1 (1986)

Polarimetic Observations of the WN7 Binary CQ Cephei. *L. Drissen, A. F. J. Moffat, P. Bastien, R. Lamontagne, & S. Tapia.* 306, 215, 83-E12 (1986)

Atmospheric Eclipses in the SMC Wolf-Rayet Eclipsing Binary HD 5980: The Heavy versus the Light Metal Abundance. *G. Koenigsberger, A. F. J. Moffat, & L. H. Auer.* 322, L41, 145-C12 (1987)

Abundance Anomalies in Hot Horizontal-Branch Stars of the Globular Cluster NGC 6752. *J. W. Glaspey, G. Michaud, A. F. J. Moffat, & S. Demers.* 339, 926, 63-C1 (1989)

Photometry and Polarimetry of the Unusual WN5 Star EZ Canis Majoris. *L. Drissen, C. Robert, R. Lamontagne, A. F. J. Moffat, N. St-Louis, N. van Weeren, & A. M. van Genderen.* 343, 426, 123-C13 (1989)

The Wolf-Rayet Star Population in the Most Massive Giant H II Regions of M33. *L. Drissen, A. F. J. Moffat, & M. M. Shara.* 364, 496, 202-C10 (1990)

MOFFAT, ANTHONY F. An Eight Year Spectroscopic Orbit for the WC7+O4 Wolf-Rayet Binary HD 193793: Toward Solving the Mystery of the Infrared Outbursts. *Anthony F. Moffat, Robert Lamontagne, Peredur M. Williams, Jiri Horn, & Wilhelm Seggewiss.* 312, 807, 11-F8 (1987)

MOFFAT, ANTHONY F. J. Wolf-Rayet Stars in the Magellanic Clouds. IV. The Extraordinarily Broad-lined, Triple System R130 in the Large Magellanic Cloud. *Anthony F. J. Moffat & Wilhelm Seggewiss.* 309, 714, 129-B2 (1986)

Do Novae Hibernate during Most of the Millennia between Eruptions? Links between Dwarf and Classical Novae, and Implications for the Space Densities and Evolution of Cataclysmic Binaries. *Michael M. Shara, Mario Livio, Anthony F. J. Moffat, & Marina Orio.* 311, 163, 147-G3 (1986)

First Optical Candidate for a Recovered Classical Nova in a Globular Cluster: Nova 1938 in M14. *Michael M. Shara, Anthony F. J. Moffat, Michael Potter, Helen S. Hogg, & Amelia Wehlau.* 311, 796, 156-D9 (1986)

The Wolf-Rayet Population in 30 Doradus and Its Surroundings. *Anthony F. J. Moffat, Virpi S. Niemela, M. M. Phillips, You-Hua Chu, & Wilhelm Seggewiss.* 312, 612, 9-E7 (1987)

Wolf-Rayet Stars in the Andromeda Galaxy. *Anthony F. J. Moffat & Michael M. Shara.* 320, 266, 111-A9 (1987)

Polarization Variability among Wolf-Rayet Stars. I. Linear Polarization of a Complete Sample of Southern Galactic WC Stars. *Nicole St-Louis, Laurent Drissen, Anthony F. J. Moffat, Pierre Bastien, & Santiago Tapia.* 322, 870, 149-C13 (1987)

Polarization Variability among Wolf-Rayet Stars. II. Linear Polarization as a Complete Sample of Southern Galactic WN Stars. *Laurent Drissen, Nicole St-Louis, Anthony F. J. Moffat, & Pierre Bastien.* 322, 888, 149-E5 (1987)

A CCD Search for Faint Variables in the Field of an ω Centauri Low-Luminosity X-Ray Source, and in 47 Tucanae. *Michael M. Shara, Janusz Kaluzny, Michael Potter, & Anthony F. J. Moffat.* 328, 594, 69-E12 (1988)

Polarization Variability among Wolf-Rayet Stars. III. A New Way to Derive Mass-Loss Rates for Wolf-Rayet Stars in Binary Systems. *Nicole St-Louis, Anthony F. J. Moffat, Laurent Drissen, Pierre Bastien, & Carmelle Robert.* 330, 286, 93-C4 (1988)

Wolf-Rayet Stars in the Magellanic Clouds. V. Binaries in the Small Magellanic Cloud. *Anthony F. J. Moffat.* 330, 766, 101-A1 (1988)

Spectroscopic Evidence for Rapid Blob Ejection in Wolf-Rayet Stars. *Anthony F. J. Moffat, Laurent Drissen, Robert Lamontagne, & Carmelle Robert.* 334, 1038, 168-A5 (1988)

Slow Expansion of the Shell of the Recurrent Nova T Pyxidis and Detection of a Faint Extended Envelope. *Michael M. Shara, Anthony F. J. Moffat, Robert E. Williams, & Judith G. Cohen.* 337, 720, 28-A1 (1989)

Polarization Variability among Wolf-Rayet Stars. IV. A Complete Lack of Circular Polarization in the Optical Continuum. *Carmelle Robert & Anthony F. J. Moffat.* 343, 902, 130-D3 (1989)

IUE Observations of Wolf-Rayet Binary Systems in the Small Magellanic Cloud. *Anthony F. J. Moffat, Gloria Koenigsberger, & Lawrence H. Auer.* 344, 734, 143-D10 (1989)

Wolf-Rayet Stars in the Magellanic Clouds. VII. Spectroscopic Binary Search among the WNL Stars and the WN6/7–WN8/9 Dichotomy. *Anthony F. J. Moffat.* 347, 373, 186-F5 (1989)

Polarization Variability among Wolf-Rayet Stars. V. Linear Polarization of the Bright Cygnus Stars and an Anticorrelation of Variability with Wind Speed. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Laurent Drissen, & Nicole St-Louis.* 347, 1034, 196-D5 (1989)

Wolf-Rayet Stars in the Magellanic Clouds. VI. Spectroscopic Orbits of WC Binaries and Implications for W-R Evolution. *Anthony F. J. Moffat, Virpi S. Niemela, & Hugo G. Marraco.* 348, 232, 3-G8 (1990)

Uniformity of the WC Stars in the Large Magellanic Cloud. *Lindsey F. Smith, Michael M. Shara, & Anthony F. J. Moffat.* 348, 471, 8-D8 (1990)

Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)

Distances of Galactic WC Stars from Emission-Line Fluxes and a Quantification of the WC Classification. *Lindsey F. Smith, Michael M. Shara, & Anthony F. J. Moffat.* 358, 229, 124-G12 (1990)

Polarization Variability among Wolf-Rayet Stars. VI. Linear Polarimetry of the Eclipsing Binary V444 Cygni. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Nicole St-Louis, & Laurent Drissen.* 359, 211, 136-F3 (1990)

MOFFAT, J. W. The Newly Detected Pulsar in SN 1987A as a Test of Gravitational Theories. *J. W. Moffat.* 347, L59, 199-B1 (1989)

MOFFET, A. T. Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)

VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)

Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)

A Limit on the Anisotropy of the Microwave Background Radiation on Arcminute Scales. *A. C. S. Readhead, C. R. Lawrence, S. T. Myers, W. L. W. Sargent, H. E. Hardebeck, & A. T. Moffet.* 346, 566, 174-E1 (1989)

Images of Four Compact Steep-Spectrum Quasars with a Resolution of 20 Milliarcseconds at 329.1 MHz. *R. S. Simon, A. C. S. Readhead, A. T. Moffet, P. N. Wilkinson, R. Booth, B. Allen, & B. F. Burke.* 354, 140, 75-F8 (1990)

MOFFETT, THOMAS J. A Survey of Chromospherically Active Stars. *Francis C. Fekel, Thomas J. Moffett, & Gregory W. Henry.* 60, 551, 8-C4 (1986)

Observational Studies of Cepheids. IV. The Feinheit Functions. *Thomas J. Moffett & Thomas G. Barnes III.* 304, 607, 62-F3 (1986)

Observational Studies of Cepheids. V. Radial Velocities of Bright Cepheids. *Thomas G. Barnes III, Thomas J. Moffett, & Mark H. Slovak.* 65, 307, 32-E1 (1987)

Observational Studies of Cepheids. VI. Period-Radius Relations. *Thomas J. Moffett & Thomas G. Barnes III.* 323, 280, 156-B5 (1987)

Observational Studies of Cepheids. VII. Radial Velocities of Faint Cepheids. *Thomas G. Barnes III, Thomas J. Moffett, & Mark H. Slovak.* 66, 43, 1-E6 (1988)

Contemporaneous Photometry and Radial Velocities of RR Lyrae Stars. *Thomas G. Barnes III, Thomas J. Moffett, Suzanne L. Hawley, Mark H. Slovak, & Marian L. Frueh.* 67, 403, 17-E1 (1988)

Observational Studies of Cepheids. VIII. Additional Radial Velocities of Cepheids and RR Lyrae Variables. *Teresa D. Wilson, Michael W. Carter, Thomas G. Barnes III, G. Wayne Van Citters, Jr., & Thomas J. Moffett.* 69, 951, 15-D3 (1989)

The Period-Radius Relation for Classical Cepheids from the Visual Surface Brightness Technique. *Wolfgang P. Gieren, Thomas G. Barnes III, & Thomas J. Moffett.* 342, 467, 106-D13 (1989)

MOGHADDAM-TAAHERI, E. Acceleration of Runaway Electrons in Solar Flares. *E. Moghaddam-Taaheri & C. K. Goertz.* 352, 361, 54-D1 (1990)

MOK, Y. Comments on Compressible Effects on Alfvén Normal Modes in Nonuniform Plasmas. *Y. Mok & G. Einaudi.* 351, 296, 41-F11 (1990)

Prominence Formation in a Coronal Loop. *Y. Mok, J. F. Drake, D. D. Schnack, & G. Van Hoven.* 359, 228, 136-G11 (1990)

MOK, YUNG. Alfvén Wave Dissipation in the Solar Atmosphere. *G. Einaudi & Yung Mok.* 319, 520, 99-A1 (1987)

MOLARO, P. Na I Interstellar Absorption in the Direction of Two LMC Supergiants in the Field of SN 1987A. *P. Molaro, G. Vladilo, G. Avila, & S. D'Odorico.* 339, L63, 66-C7 (1989)

Mg II Observed in the Local Interstellar Medium: The Local Cloud. *R. Génova, P. Molaro, G. Vladilo, & J. E. Beckman.* 355, 150, 88-G2 (1990)

MOLARO, PAOLO. Million Degree Gas in the Galactic Halo and the Large Magellanic Cloud. II. The Line of Sight to SN 1987A. *Max Pettini, Raylee Stathakis, Sandro D'Odorico, Paolo Molaro, & Giovanni Vladilo.* 340, 256, 70-C1 (1989)

MOLENDI, S. Thermal Comptonization in Standard Accretion Disks. *L. Maraschi & S. Molendi.* 353, 452, 69-E12 (1990)

MOLES, M. Star Formation in a Sample of Interacting Galaxies. *E. Laurikainen & M. Moles.* 345, 176, 151-C4 (1989)

MOLLAAGHABABA, R. Rotational Spectra of Carbon 13 and Vibrationally Excited SiC. *R. Mollaaghababa, C. A. Gottlieb, J. M. Vrtilek, & P. Thaddeus.* 352, L21, 55-C6 (1990)

MØLLER, PALLE. $z_{abs} \sim z_{em}$ Absorption Systems in Quasar Spectra: A Correlation with Radio and Optical Luminosity? *Palle Møller & Peter Jakobsen.* 320, L75, 121-A9 (1987)

MOLNAR, L. A. Simultaneous X-Ray and Radio Observations of GX 13+1. *M. R. Garcia, J. E. Grindlay, L. A. Molnar, L. Stella, N. E. White, & E. R. Seaquist.* 328, 552, 69-B12 (1988)

VLBI Observations of Expansion in Cygnus X-3. *L. A. Molnar, M. J. Reid, & J. E. Grindlay.* 331, 494, 111-G4 (1988)

MOLNAR, LAWRENCE A. Effects of the X-Ray Scattering Halo on the Observational Properties of Cygnus X-3. *Lawrence A. Molnar & Christopher W. Mauche.* 310, 343, 135-F11 (1986)

Is 4U 2129+47 (= V1727 Cygni) a Triple System? *Michael R. Garcia, Charles D. Bailyn, Jonathan E. Grindlay, & Lawrence A. Molnar.* 341, L75, 100-A5 (1989)

MOLNAR, LAWRENCE ALAN. Interpretation of the Period Derivative of Cygnus X-3. *Lawrence Alan Molnar.* 331, L25, 114-C1 (1988)

MOLTENI, D. X-Ray Variability of the BL Lacertae Object PKS 2155–304 in the 0.1–6 keV Range. *M. Morini, L. Chiappetti, D. Maccagni, L. Maraschi, D. Molteni, E. G. Tanzi, A. Treves, & A. Wolter.* 306, L71, 93-G5 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

The X-Ray Spectrum of Markarian 509 Observed by *EXOSAT*. *M. Morini, N. A. Lipani, & D. Molteni.* 317, 145, 65-E3 (1987)

An Exceptional Change in the X-Ray Flux and Spectrum of the Seyfert 1 Galaxy E1615+061. *L. Piro, E. Massaro, G. C. Perola, & D. Molteni.* 325, L25, 31-C1 (1988)

The X-Ray Structure of Centaurus A from 0.1 to 50 keV Observations with *EXOSAT*. *M. Morini, F. Anselmo, & D. Molteni.* 347, 750, 192-F3 (1989)

MONAGHAN, JOSEPH J. Toward a Realistic Three-Body Problem. *Paul W. Cleary & Joseph J. Monaghan.* 349, 150, 15-G1 (1990)

MONET, DAVID G. The Luminosity Function of White Dwarfs. *James Liebert, Conard C. Dahn, & David G. Monet.* 332, 891, 134-B13 (1988)

MONETI, A. Near-Infrared Images of the Bipolar Nebula OH 0739–14. *C. E. Woodward, W. J. Forrest, J. L. Pipher, A. Moneti, & M. A. Shure.* 337, 754, 28-D2 (1989)

MONETI, ANDREA. High Spatial Resolution Infrared Imaging of L1551–IRS 5: Direct Observations of Its Circumstellar Envelope. *Andrea Moneti, William J. Forrest, Judith L. Pipher, & Charles E. Woodward.* 327, 870, 58-B10 (1988)

MONIER, R. The X-Ray Spectrum of NGC 1068. *R. Monier & J. P. Halpern.* 315, L17, 45-B6 (1987)

MONIN, JEAN-LOUIS. Infrared Images of Protostellar Accretion Disks: Theoretical Models. *Bernard Lazareff, Ralph E. Pudritz, & Jean-Louis Monin.* 358, 170, 124-B6 (1990)

MONTANI, J. A Complete Survey of the Large Magellanic Cloud. *R. S. Cohen, T. M. Dame, G. Garay, J. Montani, M. Rubio, & P. Thaddeus.* 331, L95, 121-E11 (1988)

MONTESINOS, BENJAMIN. Siphon Flows in Isolated Magnetic Flux Tubes. II. Adiabatic Flows. *Benjamin Montesinos & John H. Thomas.* 337, 977, 31-A1 (1989)

Siphon Flows in Isolated Magnetic Flux Tubes. III. The Equilibrium Path of the Flux-Tube Arch. *John H. Thomas & Benjamin Montesinos.* 359, 550, 142-G6 (1990)

Ultraviolet and Infrared Monitoring of FG Sagittae during 1982–1989: Evolutionary Status. *Benjamin Montesinos, Angelo Cassatella, Rosario González-Riestra, Telmo Fernández-Castro, Carlos Eiroa, & Jesús Jiménez-Fuensalida.* 363, 245, 185-B8 (1990)

MONTMERLE, T. Selective Mass Loss, Abundance Anomalies, and Helium-rich Stars. *G. Michaud, J. Dupuis, G. Fontaine, & T. Montmerle.* 322, 302, 141-B7 (1987)

MONTMERLE, THIERRY. A Young Radio-emitting Magnetic B Star in the Rho Ophiuchi Cloud. *Philippe André, Thierry Montmerle, Eric D. Feigelson, Peter C. Stine, & Karl-Ludwig Klein.* 335, 940, 183-A10 (1988)

MOODY, J. WARD. A Spectroscopic Survey of Case Emission-Line Galaxies in the Direction of the Bootes Void. *William G. Tifft, Robert P. Kirshner, Stephen A. Gregory, & J. Ward Moody.* 310, 75, 132-G10 (1986)

Emission-Line Galaxies in the Bootes Void. *J. Ward Moody, Robert P. Kirshner, Gordon M. MacAlpine, & Stephen A. Gregory.* 314, L33, 39-A13 (1987)

A $40h^{-1}$ Mpc Diameter Void in Pisces-Cetus. *Jack O. Burns, J. Ward Moody, Jean P. Brodie, & David J. Batuski.* 335, 542, 178-D7 (1988)

MOOK, DELO E. Optical Observations of the X-Ray Binary V1727 Cygni (=4U 2129+47) during a Low State: Some Unexpected Results. *John R. Thorstensen, Kenneth R. Brownsberger, Delo E. Mook, The Off-Campus Program Students, Ronald A. Remillard, Jeffrey E. McClintock, David C. Koo, & Philip A. Charles.* 334, 430, 159-E1 (1988)

MOONEY, J. Infrared Imaging of Sunspots and Faculae at the Photospheric Opacity Minimum. *P. Foukal, R. Little, & J. Mooney.* 336, L33, 8-E4 (1989)

MOONEY, T. J. Star Formation Rates and the Far-Infrared Luminosity of Galactic Molecular Clouds. *T. J. Mooney & P. M. Solomon.* 334, L51, 161-E11 (1988)

MOORE, DAVID. The Extremely Low Mass Companion to Gliese 623. *Geoffrey W. Marcy & David Moore.* 341, 961, 97-B1 (1989)

MOORE, DAVID J. Lyα Emission from Disk Absorption Systems at High Redshift: Star Formation in Young Galaxy Disks. *Harding E. Smith, Ross D. Cohen, Joseph E. Burns, David J. Moore, & Barbara A. Uchida.* 347, 87, 183-B11 (1989)

MOORE, ELLEN L. Observations and Analysis of HDO in Interstellar Clouds. *Ellen L. Moore, William D. Langer, & G. Richard Huguenin.* 306, 682, 92-A7 (1986)

MOORE, MARLA. Laboratory Experiments on Carbonaceous Material as a Source for the Red Rectangle Visual Emissions. *Thomas J. Wdowiak, Bertram Donn, Joseph A. Nuth, Emmett Chappelle, & Marla Moore.* 336, 838, 12-G8 (1989)

MOORE, MARLA H. SiH and the Unidentified 4.6 Micron Feature. *Joseph A. Nuth & Marla H. Moore.* 329, L113, 89-F11 (1988)

Mass Spectra of Sputtered Polyoxymethylene: Implications for Comets. *Marla H. Moore & Toshihiko Tanabé.* 365, L39, 212-D11 (1990)

MOORE, R. A Fast-moving Knot of Radio Emission in the Active Galaxy NGC 1275. *J. M. Marr, D. C. Backer, M. C. H. Wright, A. C. S. Readhead, & R. Moore.* 337, 671, 27-D1 (1989)

MOORE, R. L. The Evolution of the Compact Radio Source in 3C 345. I. VLBI Observations. *J. A. Biretta, R. L. Moore, & M. H. Cohen.* 308, 93, 109-B2 (1986)

Nonpotential Features Observed in the Magnetic Field of an Active Region. *G. A. Gary, R. L. Moore, M. J. Hagyard, & Bernhard M. Haisch.* 314, 782, 38-B8 (1987)

Microflares in the Solar Magnetic Network. *J. G. Porter, R. L. Moore, E. J. Reichmann, E. Engvold, & K. L. Harvey.* 323, 380, 157-C5 (1987)

Filament Eruptions and the Impulsive Phase of Solar Flares. *S. W. Kahler, R. L. Moore, S. R. Kane, & H. Zirin.* 328, 824, 72-B7 (1988)

Propagating and Nonpropagating Compression Waves in an Isothermal Atmosphere with Uniform Horizontal Magnetic Field. *Z. E. Musielak, C.-H. An, R. L. Moore, & S. T. Suess.* 344, 478, 138-G10 (1989)

Reflection and Trapping of Transient Alfvén Waves Propagating in an Isothermal Atmosphere with Constant Gravity and Uniform Magnetic Field. *C.-H. An, Z. E. Musielak, R. L. Moore, & S. T. Suess.* 345, 597, 156-D9 (1989)

Reflection and Trapping of Alfvén Waves in a Spherically Symmetric Stellar Atmosphere. *C.-H. An, S. T. Suess, R. L. Moore, & Z. E. Musielak.* 350, 309, 28-G3 (1990)

MOORE, RICHARD L. The Ultraviolet Excess of Quasars. III. The Highly Polarized Quasars PKS 0736+017 and PKS 1510–089. *Matthew A. Malkan & Richard L. Moore.* 300, 216, 3-D3 (1986)

The Hiss of BL Lacertae. *Richard L. Moore, Gary D. Schmidt, & Steven C. West.* 314, 176, 29-G10 (1987)

MOORE, RONALD L. Evidence That Magnetic Energy Shedding in Solar Filament Eruptions Is the Drive in Accompanying Flares and Coronal Mass Ejections. *Ronald L. Moore.* 324, 1132, 16-A2 (1988)

The Observed Characteristics of Flare Energy Release. I. Magnetic Structure at the Energy Release Site. *Marcos E. Machado, Ronald L. Moore, Ana M. Hernandez, Marta G. Rovira, Mona J. Hagyard, & Jesse B. Smith, Jr.* 326, 425, 37-A1 (1988)

MOORE, T. J. T. Detection of H53α Emission from M82: A Reliable Measure of the Ionization Rate and Its Implications. *P. J. Puxley, P. W. J. L. Brand, T. J. T. Moore, C. M. Mountain, N. Nakai, & T. Yamashita.* 345, 163, 151-B1 (1989)

MOORE, TOBY J. T. A New CO Bipolar Flow and Dense Disk System Associated with the Infrared Reflection Nebula GGD 27 IRS. *Takuya Yamashita, Hiroko Suzuki, Norio Kaifu, Motohide Tamura, Charles M. Mountain, & Toby J. T. Moore.* 347, 894, 194-E7 (1989)

MOORHEAD, J. M. Search for HeH^+ in NGC 7027. *J. M. Moorhead, R. P. Lowe, J.-P. Maillard, W. H. Wehlau, & P. F. Bernath.* 326, 899, 43-D3 (1988)

MOORHOUSE, A. Ratios of Molecular Hydrogen Line Intensities in Shocked Gas: Evidence for Cooling Zones. *P. W. J. L. Brand, A. Moorhouse, M. G. Burton, T. R. Geballe, M. Bird, & R. Wade.* 334, L103, 169-F1 (1988)

Spatial Variations of the 3 Micron Emission Features within UV-excited Nebulae: Photochemical Evolution of Interstellar Polycyclic Aromatic Hydrocarbons. *T. R. Geballe, A. G. G. M. Tielens, L. J. Allamandola, A. Moorhouse, & P. W. J. L. Brand.* 341, 278, 87-C13 (1989)

High Spectral Resolution Observations of Fluorescent Molecular Hydrogen in Molecular Clouds. *Michael G. Burton, T. R. Geballe, P. W. J. L. Brand, & A. Moorhouse.* 352, 625, 58-G1 (1990)

MOORWOOD, A. F. M. Detection of [Si VI] 1.962 Microns and New Observations of Infrared H, [Fe II], and H_2 Line Emission in the Seyfert Galaxy NGC 1068. *E. Oliva & A. F. M. Moorwood.* 348, L5, 6-A11 (1990)

MOOS, H. W. *IUE* Observations of Interstellar Hydrogen and Deuterium toward Alpha Centauri B. *W. B. Landsman, J. Murthy, R. C. Henry, H. W. Moos, J. L. Linsky, & J. L. Russell.* 303, 791, 51-B12 (1986)

Experimental Evidence for the Effect of Resonance Structures on Electron Excitation Rates for Si III. *T. L. Yu, M. Finkenthal, & H. W. Moos.* 305, 880, 78-E3 (1986)

A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2\text{–}2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

IUE Observations of Hydrogen and Deuterium in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, W. B. Landsman, J. L. Linsky, A. Vidal-Madjar, & C. Gry.* 315, 675, 48-A10 (1987)

Laboratory Study of the Spectrum of Highly Ionized Calcium in the 100–250 Å Range Applied to Solar Flare Diagnostics. *S. Lippmann, M. Finkenthal, L. K. Huang, H. W. Moos, B. C. Stratton, T. L. Yu, A. K. Bhatia, & W. L. Hodge.* 316, 819, 61-A11 (1987)

Detection of Neutral Oxygen and Sulfur Emissions near Io Using *IUE*. *G. E. Ballester, H. W. Moos, P. D. Feldman, D. F. Strobel, M. E. Summers, J.-L. Bertaux, T. E. Skinner, M. C. Festou, & J. H. Lieske.* 319, L33, 100-D1 (1987)

IUE Observations of the Interstellar Medium toward β Geminorum. *J. Murthy, J. B. Wofford, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 336, 949, 14-C6 (1989)

Studies of H I and D I in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 356, 223, 101-G5 (1990)

MOR, A. An Exact Solution of Haugan's Binary Pulsar Equation of Motion. *M. Weinstein & A. Mor.* 328, L17, 66-E5 (1988)

MORAAL, H. The Effect of Gradient and Curvature Drift on Cosmic-Ray Forbush Decreases. *M. S. Mulder & H. Moraal.* 303, L75, 53-E10 (1986)

Acceleration of Cosmic Rays in the Solar Wind Termination Shock. I. A Steady State Technique in a Spherically Symmetric Model. *M. S. Potgieter & H. Moraal.* 330, 445, 95-C1 (1988)

MORALDI, MASSIMO. Collision-induced Infrared Spectra of H_2-He Pairs Involving $0 \leftrightarrow 1$ Vibrational Transitions and Temperatures from 18 to 7000 K. *Aleksandra Borysow, Lothar Frommhold, & Massimo Moraldi.* 336, 495, 7-C13 (1989)

MORALES, RAÚL G. E. Theoretical Study of CS-containing Molecules. I. *Ab Initio* Hartree-Fock Predictions for C_2S_2. *Juan S. Gómez-Jeria, Raúl G. E. Morales, & Luis M. Reyes.* 302, 488, 33-E7 (1986)

MORAN, J. M. VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)

Magnetic Field Structure of the Star-forming Region W3(OH): VLBI Spectral Line Results. *J. A. García-Barreto, B. F. Burke, M. J. Reid, J. M. Moran, A. D. Haschick, & R. T. Schilizzi.* 326, 954, 44-A8 (1988)

Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)

The Distance to the Center of the Galaxy: H_2O Maser Proper Motions in Sagittarius B2(N). *M. J. Reid, M. H. Schneps, J. M. Moran, C. R. Gwinn, R. Genzel, D. Downes, & B. Rönnäng.* 330, 809, 101-D7 (1988)

Limits on Refractive Interstellar Scattering toward Sagittarius B2. *C. R. Gwinn, J. M. Moran, M. J. Reid, & M. H. Schneps.* 330, 817, 101-E1 (1988)

VLBI Observations of 12 GHz Methanol Masers. *K. M. Menten, M. J. Reid, J. M. Moran, T. L. Wilson, K. J. Johnston, & W. Batrla.* 333, L83, 152-F1 (1988)

VLBI and Polarimetric Observations of the SiO Masers in R Cassiopeiae. *G. C. McIntosh, C. R. Predmore, J. M. Moran, L. J. Greenhill, A. E. E. Rogers, & R. Barvainis.* 337, 934, 30-D9 (1989)

The Orion-KL Super Water Maser. *Guido Garay, J. M. Moran, & A. D. Haschick.* 338, 244, 36-A1 (1989)

Large Proper Motions in the Remarkable Triple Radio Source in Serpens. *L. F. Rodríguez, S. Curiel, J. M. Moran, I. F. Mirabel, M. Roth, & G. Garay.* 346, L85, 181-D9 (1989)

The Large Scattering Disk of NGC 6334B. *J. M. Moran, L. F. Rodríguez, B. Greene, & D. C. Backer.* 348, 147, 2-G4 (1990)

VLBI Observations of the Water Vapor Maser in the Nucleus of NGC 3079. *A. D. Haschick, W. A. Baan, M. H. Schneps, M. J. Reid, J. M. Moran, & R. Güsten.* 356, 149, 100-G9 (1990)

First Images of Water Vapor Masers in the Galaxy M33. *L. J. Greenhill, J. M. Moran, M. J. Reid, C. R. Gwinn, K. M. Menten, A. Eckart, & H. Hirabayashi.* 364, 513, 202-E1 (1990)

The Exciting Source of the Bipolar Outflow in L1448. *S. Curiel, J. C. Raymond, L. F. Rodríguez, J. Cantó, & J. M. Moran.* 365, L85, 219-F5 (1990)

MORAN, JAMES M. Ammonia Observations of Regions with Molecular Outflows. *José M. Torrelles, Paul T. P. Ho, James M. Moran, Luis F. Rodríguez, & Jorge Cantó.* 307, 787, 105-E9 (1986)

Compact Continuum Radio Sources in the Orion Nebula. *Guido Garay, James M. Moran, & Mark J. Reid.* 314, 535, 35-D2 (1987)

Interaction of the High-Density Gas with the Bipolar Outflow in Cepheus A. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & James M. Moran.* 321, 884, 134-C1 (1987)

The Bipolar H II Region NGC 6334A. *Luis F. Rodríguez, Jorge Cantó, & James M. Moran.* 333, 801, 149-B1 (1988)

The Distance to NGC 6302. *Yolanda Gómez, James M. Moran, Luis F. Rodríguez, & Guido Garay.* 345, 862, 161-C10 (1989)

MORBEY, C. L. On the Reality of Certain Spectroscopic Orbits. *C. L. Morbey & R. F. Griffin.* 317, 343, 67-F1 (1987)

MORELLI, E. The X-Ray Pulsar A0535+26 in Hard X-Rays: Average Spectrum, Pulse Phase Spectroscopy, and Spectral Time Variability. *D. Dal Fiume, F. Frontera, & E. Morelli.* 331, 313, 109-F1 (1988)

Observations of Galactic and Extragalactic High-Energy X-Ray Sources. *G. Matt, E. Costa, D. Dal Fiume, W. Dusi, F. Frontera, & E. Morelli.* 355, 468, 94-C1 (1990)

MORENO, G. Far-Infrared Diffuse Emission: Cosecant *b* Law and Galaxy Counts. *P. de Bernardis, S. Masi, F. Melchiorri, G. Moreno, R. Vannoni, & S. Aiello.* 326, 941, 43-G8 (1988)

Infrared Emission from Interplanetary Dust. *P. Temi, P. de Bernardis, S. Masi, G. Moreno, & A. Salama.* 337, 528, 24-B1 (1989)

MORENO, GIOVANNI. Extragalactic Infrared Backgrounds, Polarization, and Universal Magnetic Field. *Paolo de Bernardis, Silvia Masi, Francesco Melchiorri, & Giovanni Moreno.* 340, L45, 83-A10 (1989)

MORENO, JOSÉ. The Lens Effect of a Big Spherical Inhomogeneity in the Linear Approximation. *José Moreno & Miquel Portilla.* 352, 399, 56-B1 (1990)

MORENO-INSERTIS, F. Stability of Sunspots to Convective Motions. I. Adiabatic Instability. *F. Moreno-Insertis & H. C. Spruit.* 342, 1158, 116-D3 (1989)

MORFILL, G. Ultra–High Energy Cosmic Rays in a Galactic Wind and Its Termination Shock. *J. R. Jokipii & G. Morfill.* 312, 170, 2-G5 (1987)

Cosmic-Ray Viscosity. *J. A. Earl, J. R. Jokipii, & G. Morfill.* 331, L91, 121-E7 (1988)

Cosmic Rays at Fluid Discontinuities. *J. R. Jokipii, J. Kóta, & G. Morfill.* 345, L67, 157-F9 (1989)

Radiation Viscosity: Effects on X-Ray Spectra. *A. Rebetzky, H. Herold, G. Morfill, & H. Ruder.* 350, 796, 35-G8 (1990)

A Discrete-Time Model for Inhomogeneous Spherical Accretion onto Neutron Stars. *V. Demmel, G. Morfill, & H. Atmanspacher.* 354, 616, 84-A1 (1990)

MORFILL, G. E. A Model of Static Cosmic-Ray–supported Galactic Coronae. *T. W. Hartquist & G. E. Morfill.* 311, 518, 153-C8 (1986)

Characteristics of Old Neutron Stars in Dense Interstellar Clouds. *H. Böhringer, G. E. Morfill, & H. U. Zimmermann.* 313, 218, 17-D1 (1987)

The Effects of Dust on the Propagation and Dissipation of Alfvén Waves in Interstellar Clouds. *W. Pilipp, T. W. Hartquist, O. Havnes, & G. E. Morfill.* 314, 341, 37-G9 (1987)

On the Dynamical Role of Cosmic Rays in Cooling Flows in Clusters of Galaxies. *H. Böhringer & G. E. Morfill.* 330, 609, 99-B7 (1988)

Heating of the Intracluster Medium. *A. Just, B. M. Deiss, W. H. Kegel, H. Böhringer, & G. E. Morfill.* 354, 400, 81-D1 (1990)

Particle Acceleration in Step Function Shear Flows: A Microscopic Analysis. *J. R. Jokipii & G. E. Morfill.* 356, 255, 102-C3 (1990)

MORGAN, BRIAN L. Magnesium Gradients in Elliptical Galaxies. I. Method and Initial Results. *William A. Baum, Bjarne Thomsen, & Brian L. Morgan.* 301, 83, 14-G10 (1986)

MORGAN, C. G. Cosmology from a Galaxy Group Catalog. I. Binaries. *C. G. Morgan & F. D. A. Hartwick.* 328, 381, 67-C1 (1988)

MORGAN, D. H. Angular Diameters and Fluxes of Magellanic Cloud Planetary Nebulae. II. High-Speed Direct Imaging. *P. R. Wood, S. J. Meatheringham, M. A. Dopita, & D. H. Morgan.* 320, 178, 110-A11 (1987)

MORGAN, DAVID H. New Evolutionary Relationships for Magellanic Cloud Planetary Nebulae. *Michael A. Dopita, Stephen J. Meatheringham, Peter R. Wood, B. Louise Webster, David H. Morgan, & Holland C. Ford.* 315, L107, 49-D2 (1987)

Fluxes and Ionized Masses of Magellanic Cloud Planetary Nebulae. *Stephen J. Meatheringham, Michael A. Dopita, & David H. Morgan.* 329, 166, 76-G4 (1988)

MORGAN, EDWARD H. *SAS 3* and *Einstein* Observations of the 11 Minute Orbital Period of the Globular Cluster X-Ray Source 4U 1820−30. *Edward H. Morgan, Ronald A. Remillard, & Michael R. Garcia.* 324, 851, 12-F9 (1988)

MORGAN, JAMES. A CO and Far-Infrared Study of the S254–S258 Region. *Mark H. Heyer, Ronald L. Snell, James Morgan, & F. Peter Schloerb.* 346, 220, 168-G8 (1989)

MORGAN, JAMES A. Radio Continuum Emission from Young Stellar Objects in L1641. *James A. Morgan, Ronald L. Snell, & Karen M. Strom.* 362, 274, 172-E9 (1990)

MORGAN, JEFF. Optical Manifestations of Mass Outflows from Young Stars: An Atlas of CCD Images of Herbig-Haro Objects. *Karen M. Strom, Stephen E. Strom, Sidney C. Wolff, Jeff Morgan, & Michael Wenz.* 62, 39, 31-D1 (1986)

MORGAN, S. Problems with the Baade-Wesselink Method. *E. Böhm-Vitense, P. Garnavich, M. Lawler, J. Mena-Werth, S. Morgan, E. Peterson, & S. Temple.* 343, 343, 122-D4 (1989)

MORGAN, SIOBAHN. The Self-Enrichment of Globular Clusters. *Siobahn Morgan & George Lake.* 339, 171, 52-B8 (1989)

MORGAN, WM. LOWELL. Ion-Dipolar Molecule Rate Coefficients. *Wm. Lowell Morgan & David R. Bates.* 314, 817, 38-E3 (1987)

Ion-Dipolar Molecule Rate Coefficients: Erratum. *Wm. Lowell Morgan & David R. Bates.* 321, 1049, 135-G14 (1987) (Orig. paper in 314, 817, 38-E3 (1987))

MORGANTI, R. Physical Properties of Jets in Low-Luminosity Radio Sources. *G. V. Bicknell, H. R. de Ruiter, R. Fanti, R. Morganti, & P. Parma.* 354, 98, 75-B9 (1990)

MORI, M. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

MORIARTY-SCHIEVEN, G. A Comparison of the Radio Continuum and Optical Properties of the HH Objects in Cepheus A West (GGD 37). *V. A. Hughes & G. Moriarty-Schieven.* 360, 215, 147-F3 (1990)

MORIARTY-SCHIEVEN, G. H. CS Observations of L1551: No Rotating Disk. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, & G. L. Grasdalen.* 317, L95, 78-D13 (1987)

High-Resolution Images of the L1551 Bipolar Outflow: Evidence for an Expanding, Accelerated Shell. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, F. P. Schloerb, K. M. Strom, & G. L. Grasdalen.* 319, 742, 103-B6 (1987)

High-Resolution Images of the L1551 Molecular Outflow. II. Structure and Kinematics. *G. H. Moriarty-Schieven & Ronald L. Snell.* 332, 364, 127-B5 (1988)

High-Resolution Observations of the B335 and L723 Bipolar Molecular Outflows. *G. H. Moriarty-Schieven & R. L. Snell.* 338, 952, 45-F2 (1989)

CO $J = 2$–1 Observations of the NGC 2071 Molecular Outflow: A Wind-driven Shell. *G. H. Moriarty-Schieven, R. L. Snell, & V. A. Hughes.* 347, 358, 186-E1 (1989)

MORIGI, G. Measurements of the Cosmic Background Radiation Temperature at 6.3 Centimeters. *N. Mandolesi, P. Calzolari, S. Cortiglioni, G. Morigi, L. Danese, & G. De Zotti.* 310, 561, 140-A1 (1986)

MORIKAWA, MASAHIRO. Oscillating Universe: The Periodic Redshift Distribution of Galaxies with a Scale $128h^{-1}$ Megaparsecs at the Galactic Poles. *Masahiro Morikawa.* 362, L37, 181-A10 (1990)

MORIMOTO, M. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

MORIMOTO, MASAKI. Detection of Intense Unidentified Lines in TMC-1. *Norio Kaifu, Hiroko Suzuki, Masatoshi Ohishi, Takeshi Miyaji, Shin-ichi Ishikawa, Takashi Kasuga, Masaki Morimoto, & Shuji Saito.* 317, L111, 78-E14 (1987)

MORINI, M. X-Ray Variability of the BL Lacertae Object PKS 2155–304 in the 0.1–6 keV Range. *M. Morini, L. Chiappetti, D. Maccagni, L. Maraschi, D. Molteni, E. G. Tanzi, A. Treves, & A. Wolter.* 306, L71, 93-G5 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

The X-Ray Spectrum of Markarian 509 Observed by *EXOSAT*. *M. Morini, N. A. Lipani, & D. Molteni.* 317, 145, 65-E3 (1987)

EXOSAT Observations of the Tycho Supernova Remnant. *A. Smith, J. Davelaar, A. Peacock, B. G. Taylor, M. Morini, & N. R. Robba.* 325, 288, 22-C7 (1988)

EXOSAT Observations of the Supernova Remnant G109.1–1.0 and the X-Ray Pulsar 1E 2259+586. *M. Morini, N. R. Robba, A. Smith, & M. van der Klis.* 333, 777, 148-G1 (1988)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of the BL Lacertae Object PKS 2155–304. *A. Treves, M. Morini, L. Chiappetti, A. Fabian, R. Falomo, D. Maccagni, L. Maraschi, E. G. Tanzi, & G. Tagliaferri.* 341, 733, 94-D5 (1989)

The X-Ray Structure of Centaurus A from 0.1 to 50 keV Observations with *EXOSAT*. *M. Morini, F. Anselmo, & D. Molteni.* 347, 750, 192-F3 (1989)

MORITA, K.-I. High-Resolution Observations of CO from the Bipolar Nebula CRL 2688. *R. Kawabe, M. Ishiguro, T. Kasuga, K.-I. Morita, N. Ukita, H. Kobayashi, S. Okumura, E. Fomalont, & N. Kaifu.* 314, 322, 31-F1 (1987)

Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

Nuclear Concentration of Molecular Gas in the Late-Type Spiral Galaxy NGC 6946: 300 Parsec Scale Gaseous Disk. *S. Ishizuki, R. Kawabe, M. Ishiguro, S. K. Okumura, K.-I. Morita, Y. Chikada, T. Kasuga, & M. Doi.* 355, 436, 93-G3 (1990)

MORITA, KAZUHIKO. High-Resolution CO Observations of NGC 1068. *Noboru Kaneko, Kazuhiko Morita, Yasuo Fukui, Koji Sugitani, Takahiro Iwata, Naomasa Nakai, Norio Kaifu, & Harvey S. Liszt.* 337, 691, 27-E7 (1989)

MORITA, KOH-ICHIRO. Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M–0.13–0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)

New H_2O Masers in the NGC 7538 Region. *Osamu Kameya, Koh-Ichiro Morita, Ryohei Kawabe, & Masato Ishiguro.* 355, 562, 95-D7 (1990)

Aperture Synthesis Observations of NH_3 in OMC-1: Filamentary Structures around Orion-KL. *Yasuhiro Murata, Ryohei Kawabe, Masato Ishiguro, Koh-Ichiro Morita, Takashi Kasuga, Toshiaki Takano, & Tetsuo Hasegawa.* 359, 125, 135-E9 (1990)

MORLEY, P. D. Baryonic-to-Hyperonic Transition in Collapsing Stars. *A. Gleeson, P. D. Morley, & M. Plümer.* 309, 161, 121-F10 (1986)

MOROSSI, C. The Ultraviolet Spectrum of Procyon. I. The Atlas from 2030 to 2371 Å. *R. Faraggiana, F. Castelli, C. Morossi, Y. Kondo, & K. A. van der Hucht.* 61, 719, 27-D2 (1986)

Relationship between Optical and X-Ray Properties of O-Type Stars Surveyed with the *Einstein Observatory*. *S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., M. Ramella, C. Morossi, R. Rosner, & J. H. M. M. Schmitt.* 361, 621, 165-F11 (1990)

MORRAS, R. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

Cloud–Milky Way Collisions in the Outer Galaxy. *I. F. Mirabel & R. Morras.* 356, 130, 100-F1 (1990)

MORRELL, NIDIA. Stellar Multiplicity in the Scorpius-Centaurus Association Tabulated Optical Properties of Graphite and Silicate Grains: Erratum. *Hugo Levato, Stella Malaroda, Nidia Morrell, Gladys Solivella, & B. T. Draine.* 64, 487, 23-B8 (1987)

Spectroscopic Binary Frequency among CNO Stars. *Hugo Levato, Nidia Morrell, Beatriz García, & Stella Malaroda.* 68, 319, 27-G1 (1988)

Spectroscopic Binaries in the Open Cluster Collinder 228. *Hugo Levato, Stella Malaroda, Beatriz García, Nidia Morrell, & Gladys Solivella.* 72, 323, 6-E1 (1990)

MORRELL, NIDIA I. Studies of Binary Stars in the Magellanic Clouds. I. NS 105–67: A Massive Double-Lined O-Type Binary in the Large Magellanic Cloud. *Virpi S. Niemela & Nidia I. Morrell.* 310, 715, 141-G1 (1986)

MORRIS, D. E. Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

MORRIS, D. J. On the High-Energy Gamma-Ray Signature of Cosmic-Ray Sources. *J. F. Ormes, M. E. Özel, & D. J. Morris.* 334, 722, 164-D1 (1988)

MORRIS, DIRK H. A Magnetospheric Model for Radio Emission from Active, Late-Type Binary Stars. *Dirk H. Morris, Robert L. Mutel, & Bumei Su.* 362, 299, 172-G11 (1990)

MORRIS, M. Structural Details of the Sagittarius A Complex: Evidence for a Large-Scale Poloidal Magnetic Field in the Galactic Center Region. *F. Yusef-Zadeh & M. Morris.* 320, 545, 115-D12 (1987)

The Polarization of the Far-Infrared Radiation from the Galactic Center. *M. W. Werner, J. A. Davidson, M. Morris, G. Novak, S. R. Platt, & R. H. Hildebrand.* 333, 729, 148-C1 (1988)

The Magnetic Field in the Dust Ring at the Center of the Galaxy. *R. H. Hildebrand, D. P. Gonatas, S. R. Platt, X. D. Wu, J. A. Davidson, M. W. Werner, G. Novak, & M. Morris.* 362, 114, 170-E3 (1990)

MORRIS, MARK. A Low-Energy Jet Emanating from the Galactic Nucleus? *F. Yusef-Zadeh, Mark Morris, O. B. Slee, & G. J. Nelson.* 300, L47, 13-C10 (1986)

The Large System of Molecular Clouds in Orion and Monoceros. *Ronald J. Maddalena, Mark Morris, J. Moscowitz, & P. Thaddeus.* 303, 375, 45-B9 (1986)

Mass Loss from Evolved Stars. III. Mass Loss Rates for 50 Stars from CO $J = 1$–0 Observations: Erratum. *G. R. Knapp & Mark Morris.* 303, 521, 46-F12 (1986) (Orig. paper in 292, 640, 54-F7 (1985))

Nonthermal Radio Emission from the Galactic Center Arc. *F. Yusef-Zadeh, Mark Morris, O. B. Slee, & G. J. Nelson.* 310, 689, 141-D12 (1986)

An Unusual Radio Loop in the Edge-on Seyfert Galaxy NGC 5506. *Ann E. Wehrle & Mark Morris.* 313, L43, 27-B1 (1987)

The Rich Molecular Spectrum and the Rapid Outflow of OH 231.8+4.2. *Mark Morris, Stéphane Guilloteau, Robert Lucas, & Alain Omont.* 321, 888, 134-C5 (1987)

The Linear Filaments of the Radio Arc near the Galactic Center. *Farhad Yusef-Zadeh & Mark Morris.* 322, 721, 147-F7 (1987)

An Expanding System of Molecular Clouds Surrounding λ Orionis. *Ronald J. Maddalena & Mark Morris.* 323, 179, 155-A10 (1987)

The Northern Extension of the Radio Arc near the Galactic Center. *Farhad Yusef-Zadeh & Mark Morris.* 329, 729, 84-F4 (1988)

The Circumstellar Water Fountain of IRAS 16342−3814: A Very High Velocity Bipolar Flow. *Lauren Likkel & Mark Morris.* 329, 914, 87-B4 (1988)

The Thermal, Arched Filaments of the Radio Arc near the Galactic Center: Magnetohydrodynamic-induced Ionization? *Mark Morris & Farhad Yusef-Zadeh.* 343, 703, 128-A1 (1989)

A Study of AFGL 5376: An Unusual Extended Infrared Source near the Galactic Center. *Keven Uchida, Mark Morris, & E. Serabyn.* 351, 443, 45-E9 (1990)

MORRIS, S. L. The *Einstein Observatory* Extended Medium-Sensitivity Survey. I. X-Ray Data and Analysis. *I. M. Gioia, T. Maccacaro, R. E. Schild, A. Wolter, J. T. Stocke, S. L. Morris, & J. P. Henry.* 72, 567, 10-C11 (1990)

The Extended Medium-Sensitivity Survey Distant Cluster Sample: X-Ray Cosmological Evolution. *I. M. Gioia, J. P. Henry, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 356, L35, 110-A10 (1990)

MORRIS, SIMON L. The Absorption-Line Spectrum of GC 1556+335: Ejected or Intervening Material? *Simon L. Morris, Ray J. Weymann, Craig B. Foltz, D. A. Turnshek, S. Shectman, C. Price, & T. A. Boroson.* 310, 40, 132-D12 (1986)

1E 1048.5+5421: A New 114 Minute AM Herculis Binary. *Simon L. Morris, Gary D. Schmidt, James Liebert, John Stocke, Isabella M. Gioia, & Tommaso Maccacaro.* 314, 641, 36-E8 (1987)

X-Ray–selected AGNs near Bright Galaxies. *John T. Stocke, Peter Schneider, Simon L. Morris, Isabella M. Gioia, Tommaso Maccacaro, & Rudolph E. Schild.* 315, L11, 45-A14 (1987)

The Complex Absorption Spectrum of the Broad Absorption Line QSO 1303+308. *Craig B. Foltz, Ray J. Weymann, Simon L. Morris, & David A. Turnshek.* 317, 450, 68-G10 (1987)

The Covering Factor of Quasar Broad Absorption Line Clouds. *Simon L. Morris.* 330, L83, 104-E10 (1988)

Optically Thin Gas in the Broad-Line Region of Seyfert Galaxies. *Simon L. Morris & Martin J. Ward.* 340, 713, 77-C6 (1989)

A Cooling Flow in a High-Redshift, X-Ray–selected Cluster of Galaxies. *Roberto Nesci, Isabella M. Gioia, Tommaso Maccacaro, Simon L. Morris, Giuseppe C. Perola, Rudolph E. Schild, & Anna Wolter.* 344, 104, 134-C11 (1989)

No Evidence for Radio-quiet BL Lacertae Objects. *John T. Stocke, Simon L. Morris, Isabella Gioia, Tommaso Maccacaro, R. E. Schild, & A. Wolter.* 348, 141, 2-F11 (1990)

MS 1603.6+2600, an Unusual X-Ray Selected Binary System at High Galactic Latitude. *Simon L. Morris, James Liebert, John T. Stocke, Isabella M. Gioia, Rudy E. Schild, & Anna Wolter.* 365, 686, 216-G1 (1990)

MORRISON, NANCY D. The Extinction Law in the Open Cluster NGC 457 and the Intrinsic Energy Distribution of φ Cassiopeiae (F0 Ia). *Patricia Rosenzweig & Nancy D. Morrison.* 306, 522, 90-B9 (1986)

MORROW, CHERILYNN A. Depth and Latitude Dependence of Solar Rotation. *Timothy M. Brown & Cherilynn A. Morrow.* 314, L21, 33-C8 (1987)

Angular Momentum Transport and Dynamo Action in the Sun: Implications of Recent Oscillation Measurements. *Peter A. Gilman, Cherilynn A. Morrow, & Edward E. DeLuca.* 338, 528, 39-C12 (1989)

Inferring the Sun's Internal Angular Velocity from Observed *p*-Mode Frequency Splittings. *Timothy M. Brown, Jørgen Christensen-Dalsgaard, Wojciech A. Dziembowski, Philip Goode, Douglas O. Gough, & Cherilynn A. Morrow.* 343, 526, 124-E6 (1989)

MORSE, JON A. The Penultimate Supernova in the Large Magellanic Cloud: SNR 0540−69.3. *Robert P. Kirshner, Jon A. Morse, P. Frank Winkler, & William P. Blair.* 342, 260, 104-B1 (1989)

MORSE, R. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

MORTON, D. C. Interstellar Absorption Lines in the Galaxy NGC 1705. *D. G. York, A. Caulet, P. Rybski, J. Gallagher, J. C. Blades, D. C. Morton, & W. Wamsteker.* 351, 412, 45-B9 (1990)

MORTON, DONALD C. Extent of Ionized Calcium in the Outer Parts of Galaxies. *Donald C. Morton, Donald G. York, & Edward B. Jenkins.* 302, 272, 31-A13 (1986)

The Remarkable Broad Absorption Line QSO 0059−2735 with Extensive Fe II Absorption. *C. Hazard, Richard G. McMahon, John K. Webb, & Donald C. Morton.* 323, 263, 156-A1 (1987)

Observations of High-Redshift Ca II Absorption in QSO Spectra. *J. Gordon Robertson, Donald C. Morton, J. Chris Blades, Donald G. York, & David M. Meyer.* 325, 635, 27-D13 (1988)

A Search List of Lines for Quasi-stellar Object Absorption Systems. *Donald C. Morton, Donald G. York, & Edward B. Jenkins.* 68, 449, 29-F1 (1988)

A Search List of Lines for Quasi-stellar Object Absorption Systems: Erratum. *Donald C. Morton & Donald G. York.* 69, 701, 11-E11 (1989) (Orig. paper in 68, 449, 29-F1 (1988))

MOSCONI, MIRTA B. Spherical Galaxy Collisions: Head-on Encounters. *Julio F. Navarro & Mirta B. Mosconi.* 336, 669, 10-G1 (1989)

A Simple Model for Dissipative Galaxy Formation. *Mario G. Abadi, Diego García Lambas, & Mirta B. Mosconi.* 360, 343, 150-E3 (1990)

MOSCOWITZ, J. The Large System of Molecular Clouds in Orion and Monoceros. *Ronald J. Maddalena, Mark Morris, J. Moscowitz, & P. Thaddeus.* 303, 375, 45-B9 (1986)

MOSELEY, H. Far-Infrared and Radio Observations of DR 6, DR 7, and DR 22. *S. Odenwald, K. Shivanandan, M. Campbell, G. Fazio, P. Schwartz, & H. Moseley.* 306, 122, 82-E7 (1986)

COBE Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

MOSELEY, S. H. Far-Infrared Spectrophotometry of SN 1987A: Days 265 and 267. *S. H. Moseley, E. Dwek, W. Glaccum, J. R. Graham, R. F. Loewenstein, & R. F. Silverberg.* 347, 1119, 197-E1 (1989)

Observations of 40–70 Micron Bands of Ice in IRAS 09371+1212 and Other Stars. *A. Omont, S. H. Moseley, T. Forveille, W. J. Glaccum, P. M. Harvey, L. Likkel, R. F. Loewenstein, & C. M. Lisse.* 355, L27, 92-C11 (1990)

MOSELEY, S. H., JR. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

MOSES, D. Discrete Changes in Solar Coronal Hole Boundaries. *S. W. Kahler & D. Moses.* 362, 728, 179-G1 (1990)

MOSES, DAN. Jovian Electrons at 1 AU: 1978–1984. *Dan Moses.* 313, 471, 20-B8 (1987)

Characteristics of Energetic Solar Flare Electron Spectra. *Dan Moses, Wolfgang Dröge, Peter Meyer, & Paul Evenson.* 346, 523, 172-F1 (1989)

A 153 Day Periodicity in the Occurrence of Solar Flares Producing Energetic Interplanetary Electrons. *Wolfgang Dröge, Kenneth Gibbs, John M. Grunsfeld, Peter Meyer, Brian J. Newport, Paul Evenson, & Dan Moses.* 73, 279, 21-E7 (1990)

MOSES, R. T. *Ariel 6* Measurements of the Fluxes of Ultra-heavy Cosmic Rays. *P. H. Fowler, R. N. F. Walker, M. R. W. Masheder, R. T. Moses, A. Worley, & A. M. Gay.* 314, 739, 37-F7 (1987)

MOSKALIK, PAWEL. The Effects of 3:1 Resonances in Stellar Pulsations. *Pawel Moskalik & J. Robert Buchler.* 341, 997, 97-E1 (1989)

A Survey of Bump Cepheid Model Pulsations. *J. Robert Buchler, Pawel Moskalik, & Géza Kovács.* 351, 617, 47-G1 (1990)

Resonances and Period Doubling in the Pulsations of Stellar Models. *Pawel Moskalik & J. Robert Buchler.* 355, 590, 95-G12 (1990)

MOTCH, C. Observations of the Late Superhump in VW Hydri. *H. van der Woerd, M. van der Klis, J. van Paradijs, K. Beuermann, & C. Motch.* 330, 911, 102-E1 (1988)

MOTCH, CHRISTIAN. The Optical Light Curve of the Low-Mass X-Ray Binary XB 1254−690. *Christian Motch, Holger Pedersen, Klaus Beuermann, Manfred W. Pakull, & Thierry J.-L. Courvoisier.* 313, 792, 25-D8 (1987)

MOUCHET, M. X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215−086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

MOULD, J. A Distance Scale from the Infrared Magnitude/ H I Velocity-Width Relation. V. Distance Moduli to 10 Galaxy Clusters, and Positive Detection of Bulk Supercluster Motion toward the Microwave Anisotropy. *M. Aaronson, G. Bothun, J. Mould, J. Huchra, R. A. Schommer, & M. E. Cornell.* 302, 536, 36-D4 (1986)

Isophotal Diameters of Cluster Spirals. *M. E. Cornell, M. Aaronson, G. Bothun, & J. Mould.* 64, 507, 24-A5 (1987)

MOULD, J. R. The Age of the Large Magellanic Cloud Globular Cluster NGC 1651. *J. R. Mould, G. S. Da Costa, & M. D. Crawford.* 304, 265, 56-G3 (1986)

IRAS Observations of the Nuclear Bulge of M31. *B. T. Soifer, W. L. Rice, J. R. Mould, F. C. Gillett, M. Rowan-Robinson, & H. J. Habing.* 304, 651, 63-B9 (1986)

The Age of the Small Magellanic Cloud Globular Cluster NGC 411. *G. S. Da Costa & J. R. Mould.* 305, 214, 69-C6 (1986)

The Age of the Large Magellanic Cloud Globular Cluster NGC 2173. *J. R. Mould, G. S. Da Costa, & F. P. Wieland.* 309, 39, 120-D4 (1986)

The Age of the Large Magellanic Cloud Cluster NGC 2193. *G. S. Da Costa, Christopher R. King, & J. R. Mould.* 321, 735, 132-E6 (1987)

The Globular Clusters of the Dwarf Elliptical Galaxies NGC 147, NGC 185, and NGC 205. I. Abundances. *G. S. Da Costa & J. R. Mould.* 334, 159, 156-A9 (1988)

Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)

Evolutionary versus Dynamical Time Scales for the Evolution of the Central Stars of Planetary Nebulae. *J. K. McCarthy, J. R. Mould, R. H. Mendez, R. P. Kudritzki, D. Husfeld, A. Herrero, & H. G. Groth.* 351, 230, 40-G10 (1990)

An Upper Limit on the H I Content of the Carina Dwarf Spheroidal Galaxy. *J. R. Mould, G. D. Bothun, P. J. Hall, L. Staveley-Smith, & A. E. Wright.* 362, L55, 181-C7 (1990)

MOULD, JEREMY. On the Nature of the Dwarf Carbon Star G77-61. *D. S. P. Dearborn, James Liebert, Marc Aaronson, Conard C. Dahn, Robert Harrington, Jeremy Mould, & Jesse L. Greenstein.* 300, 314, 4-E1 (1986)

The Distance Scale: Present Status and Future Prospects. *Marc Aaronson & Jeremy Mould.* 303, 1, 41-A7 (1986)

The Formation and Evolution of Carbon Stars. *Jeremy Mould & Marc Aaronson.* 303, 10, 41-B2 (1986)

The Stellar Population in the Halos of M31 and M33. *Jeremy Mould & Jerome Kristian.* 305, 591, 75-C9 (1986)

The Evolution of Asymptotic Giant Branch Stars in the Magellanic Clouds. III. The Problem of Intermediate-Mass Stars. *Jeremy Mould & Neill Reid.* 321, 156, 124-A1 (1987)

The Stellar Populations of Shapley Constellation III. *Neill Reid, Jeremy Mould, & Ian Thompson.* 323, 433, 159-C11 (1987)

The Continuity of Cluster Formation in the Large Magellanic Cloud. *Joseph Jensen, Jeremy Mould, & Neill Reid.* 67, 77, 11-C1 (1988)

The Age of the LMC Globular Cluster NGC 1783. *Jeremy Mould, Jerome Kristian, James Nemec, Marc Aaronson, & Joseph Jensen.* 339, 84, 51-A8 (1989)

Infrared Images of the Nucleus of M31. *Jeremy Mould, James Graham, K. Matthews, B. T. Soifer, & E. S. Phinney.* 339, L21, 58-C1 (1989)

Luminous M Giants in the Bulge of M31. *R. Michael Rich, Jeremy Mould, Alain Picard, Jay A. Frogel, & Roger Davies.* 341, L51, 99-F4 (1989)

Nonlinearity of the Tully-Fisher Relation. *Jeremy Mould, Mingsheng Han, & Greg Bothun.* 347, 112, 182-E1 (1989)

Luminous Asymptotic Giant Branch Stars in the Large Magellanic Cloud. *Neill Reid, Chris Tinney, & Jeremy Mould.* 348, 98, 2-C3 (1990)

The Long-Period Variable Stars of M33. *Jeremy Mould, James R. Graham, Keith Matthews, Gerry Neugebauer, & Jonathan Elias.* 349, 503, 21-E5 (1990)

The Asymptotic Giant Branch of Magellanic Cloud Clusters. *Jay A. Frogel, Jeremy Mould, & V. M. Blanco.* 352, 96, 51-C5 (1990)

A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

The Dwarf Spheroidal Galaxy Andromeda I. *Jeremy Mould & Jerome Kristian.* 354, 438, 81-G7 (1990)

The Velocity Field in the Local Supercluster. *Mingsheng Han & Jeremy Mould.* 360, 448, 151-G11 (1990)

An Asymptotic Giant Branch Star Survey in the Small Magellanic Cloud. *Neill Reid & Jeremy Mould.* 360, 490, 152-D5 (1990)

MOULD, JEREMY R. A Redshift Survey of Low Surface Brightness Galaxies. II. Do They Fill the Voids? *Gregory D. Bothun, Timothy C. Beers, Jeremy R. Mould, & John P. Huchra.* 308, 510, 114-D12 (1986)

Sources of Error in the Tully-Fisher Relation: Reducing the Scatter with CCD *i*-Band Surface Photometry of Spiral Galaxies. *Gregory D. Bothun & Jeremy R. Mould.* 313, 629, 23-F1 (1987)

Medium-Resolution Spectroscopy of Nucleated Dwarf Elliptical Galaxies. *Gregory D. Bothun & Jeremy R. Mould.* 324, 123, 2-D6 (1988)

Peculiar Velocities in Large-Scale Structure: The Problem of Incomplete Sampling. *Gregory D. Bothun, Michael J. West, Jeremy R. Mould, & R. A. Schommer.* 353, 344, 68-D3 (1990)

MOUNTAIN, C. M. Detection of H53α Emission from M82: A Reliable Measure of the Ionization Rate and Its Implications. *P. J. Puxley, P. W. J. L. Brand, T. J. T. Moore, C. M. Mountain, N. Nakai, & T. Yamashita.* 345, 163, 151-B1 (1989)

Molecular and Atomic Hydrogen Line Emission from Star-forming Galaxies. *P. J. Puxley, T. G. Hawarden, & C. M. Mountain.* 364, 77, 195-A1 (1990)

MOUNTAIN, CHARLES M. A New CO Bipolar Flow and Dense Disk System Associated with the Infrared Reflection Nebula GGD 27 IRS. *Takuya Yamashita, Hiroko Suzuki, Norio Kaifu, Motohide Tamura, Charles M. Mountain, & Toby J. T. Moore.* 347, 894, 194-E7 (1989)

MOURI, HIDEAKI. A Linear Correlation between H_2 $v = 1$–0 $S(1)$ and [O I] 6300 Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Yoshiaki Taniguchi, Kimiaki Kawara, & Minoru Nishida.* 346, L73, 181-C10 (1989)

A Relation between H_2 $v = 1$–0 $S(1)$ and 3.28 Micron Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Kimiaki Kawara, Yoshiaki Taniguchi, & Minoru Nishida.* 356, L39, 110-B1 (1990)

Excitation Mechanism of [Fe II] 1.644 Micron Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Minoru Nishida, Yoshiaki Taniguchi, & Kimiaki Kawara.* 360, 55, 145-F8 (1990)

MOUSCHOVIAS, TELEMACHOS CH. The Effect of Ambipolar Diffusion on Magnetic Braking of Molecular Cloud Cores: An Exact, Time-dependent Solution. *Telemachos Ch. Mouschovias & Efthimios V. Paleologou.* 308, 781, 117-D13 (1986)

MOUSSEAU, NORMAND. Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)

MOUTARDE, F. Collisionless Formation of Filaments in an Expanding Universe. *J.-M. Alimi, F. R. Bouchet, R. Pellat, J.-F. Sygnet, & F. Moutarde.* 354, 3, 74-B4 (1990)

MOYD, KATHERINE I. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2. John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

MOZURKEWICH, D. Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher, H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina.* 310, L61, 138-E4 (1986)

Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)

Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

Apparent Orbit of the Spectroscopic Binary β Arietis with the Mark III Stellar Interferometer. *X. P. Pan, M. Shao, M. M. Colavita, D. Mozurkewich, R. S. Simon, & K. J. Johnston.* 356, 641, 108-B11 (1990)

MOZURKEWICH, DAVID. Luminosities of Sources Associated with Molecular Outflows. *David Mozurkewich, P. R. Schwartz, & Howard A. Smith.* 311, 371, 150-B12 (1986)

Velocity Structure of Stellar Atmospheres: R Scuti. *David Mozurkewich, R. D. Gehrz, K. H. Hinkle, & D. L. Lambert.* 314, 242, 30-F12 (1987)

MUCHMORE, DAVID O. SiO Cooling Instability in the Envelopes of Cool Giant Stars. *David O. Muchmore, Joseph A. Nuth III, & Robert E. Stencel.* 315, L141, 49-F10 (1987)

MUEHLNER, DIRK. Measurements of the Anisotropy of the Cosmic Background Radiation and Diffuse Galactic Emission at Millimeter and Submillimeter Wavelengths. *Mark Halpern, Richard Benford, Stephan Meyer, Dirk Muehlner, & Rainer Weiss.* 332, 596, 130-F12 (1988)

MÜLLER, DIETRICH. Cosmic-Ray Positrons from 10 to 20 GeV: A Balloon-borne Measurement Using the Geomagnetic East-West Asymmetry. *Dietrich Müller & Kwok-kwong Tang.* 312, 183, 3-A4 (1987)

Energy Spectra of Cosmic-Ray Nuclei from 50 to 2000 GeV per AMU. *John M. Grunsfeld, Jacques L'Heureux, Peter Meyer, Dietrich Müller, & Simon P. Swordy.* 327, L31, 53-C9 (1988)

Relative Abundances of Secondary and Primary Cosmic Rays at High Energies. *Simon P. Swordy, Dietrich Müller, Peter Meyer, Jacques L'Heureux, & John M. Grunsfeld.* 349, 625, 23-A9 (1990)

MÜLLER, EWALD. Carbon Combustion Supernovae: Numerical Studies of the Final Evolution of Degenerate Carbon-Oxygen Cores. *Ewald Müller & W. David Arnett.* 307, 619, 103-F8 (1986)

Instabilities and Nonradial Motion in SN 1987A. *David Arnett, Bruce Fryxell, & Ewald Müller.* 341, L63, 99-G6 (1989)

MÜLLER-PLATHE, F. Graphite DI Layers and the Interstellar Polycyclic Aromatic Hydrocarbon Hypothesis. *S. B. Trickey, G. H. F. Diercksen, & F. Müller-Plathe.* 336, L37, 8-E9 (1989)

MUFSON, S. L. Application of a Relativistic Jet Model to the Study of BL Lacertae Objects. *D. J. Hutter & S. L. Mufson.* 301, 50, 14-E2 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

The Detection of Solar Neutrinos in a Water Cerenkov Counter. *S. L. Mufson & R. M. Heinz.* 327, 457, 52-A11 (1988)

Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

An Evolving Relativistic Jet Model for the BL Lacertae Object Markarian 421. *S. L. Mufson, D. J. Hutter, Y. Kondo, C. M. Urry, & W. Z. Wiśniewski.* 354, 116, 75-D9 (1990)

MUKAI, K. X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215−086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

MUKAI, KOJI. A New Soft X-Ray Mode in the AM Herculis Object E2003+225. *Julian P. Osborne, Klaus Beuermann, Philip Charles, Laura Maraschi, Koji Mukai, & Aldo Treves.* 315, L123, 49-E5 (1987)

MUKHERJEE, P. K. Magnetic Quadrupole Transition Rates and Rydberg States of the Magnesium Isoelectronic Sequence. *D. Ray, P. K. Mukherjee, & H. P. Roy.* 346, 1045, 180-B1 (1989)

MULDER, M. S. The Effect of Gradient and Curvature Drift on Cosmic-Ray Forbush Decreases. *M. S. Mulder & H. Moraal.* 303, L75, 53-E10 (1986)

MULLAN, D. J. Models of Transition Regions in Hybrid Stars. *J. W. Brosius & D. J. Mullan.* 301, 650, 22-F11 (1986)

Ionic Charge States of Solar Energetic Particles: Effects of Flare X-Rays. *D. J. Mullan & W. L. Waldron.* 308, L21, 113-G1 (1986)

Velocity Fields in a Low-Latitude Coronal Hole: Results from the *Solar Maximum Mission. D. J. Mullan & W. L. Waldron.* 317, 487, 69-C5 (1987)

Magnetohydrodynamic Modeling of Coronal Bright Points. *W. L. Waldron & D. J. Mullan.* 319, 971, 105-E5 (1987)

Radial and Nonradial Pulsations of Polytropes: High-Precision Eigenvalues and the Approach of p-Modes to Asymptotic Behavior. *D. J. Mullan & R. K. Ulrich.* 331, 1013, 120-B6 (1988)

g-Mode Pulsations in Polytropes: High-Precision Eigenvalues and the Approach to Asymptotic Behavior. *D. J. Mullan.* 337, 1017, 31-D4 (1989)

Evidence for a Cool Wind from the K2 Dwarf in the Detached Binary V471 Tauri. *D. J. Mullan, E. M. Sion, F. C. Bruhweiler, & K. G. Carpenter.* 339, L33, 58-D1 (1989)

Far-Infrared Properties of Flare Stars and dM Stars. *D. J. Mullan, R. E. Stencel, & D. E. Backman.* 343, 400, 123-A11 (1989)

New Numerical Solutions of Three-dimensional Compressible Hydrodynamic Convection. *Murshed Hossain & D. J. Mullan.* 354, L33, 80-D7 (1990)

On the "Fast Electron Hypothesis" for Stellar Flares. *D. J. Mullan.* 361, 215, 159-E11 (1990)

MULLAN, DERMOTT. Discovery of a Cool Expanding Shell at −1200 Kilometers per Second around V471 Tauri. *Edward M. Sion, Fred C. Bruhweiler, Dermott Mullan, & Ken Carpenter.* 341, L17, 91-B9 (1989)

MULLER, R. A. Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

MUMMA, M. J. Infrared Fluorescence Efficiencies for the ν_1 and ν_5 Bands of Formaldehyde in the Solar Radiation Field. *D. C. Reuter, M. J. Mumma, & S. Nadler.* 341, 1045, 98-B1 (1989)

MUMMA, MICHAEL J. Velocity-resolved Observations of Water in Comet Halley. *Harold P. Larson, D. Scott Davis, Michael J. Mumma, & Harold A. Weaver.* 309, L95, 131-F7 (1986)

Airborne Infrared Spectroscopy of Comet Wilson (1986l) and Comparisons with Comet Halley. *Harold P. Larson, Harold A. Weaver, Michael J. Mumma, & Siegfried Drapatz.* 338, 1106, 47-D1 (1989)

A Search for p-Mode Oscillations of Jupiter: Serendipitous Observations of Nonacoustic Thermal Wave Structure. *Drake Deming, Michael J. Mumma, Fred Espenak, Donald E. Jennings, Theodor Kostiuk, Gunter Wiedemann, Robert Loewenstein, & Joseph Piscitelli.* 343, 456, 123-F7 (1989)

On the Identification of Formaldehyde in Halley's Comet. *Michael J. Mumma & Dennis C. Reuter.* 344, 940, 145-F11 (1989)

MUNAKATA, HIROHARU. Neutrino Energy Loss in Stellar Interiors: Erratum. *Hiroharu Munakata, Yasuharu Kohyama, & Naoki Itoh.* 304, 580, 60-C1 (1986) (Orig. paper in 296, 197, 91-B4 (1985))

Neutrino Energy Loss in Stellar Interiors. II. Axial-Vector Contribution to the Plasma Neutrino Energy Loss Rate. *Yasuharu Kohyama, Naoki Itoh, & Hiroharu Munakata.* 310, 815, 142-G3 (1986)

Neutrino-Pair Bremsstrahlung in Dense Stars. V. Partially Degenerate Electrons. *Hiroharu Munakata, Yasuharu Kohyama, & Naoki Itoh.* 316, 708, 59-G3 (1987)

Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes. *Naoki Itoh, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 339, 354, 54-D5 (1989)

Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes: Erratum. *Itoh Naoki, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 360, 741, 155-C13 (1990) (Orig. paper in 352, 361, 54-D1 (1990))

Enhancement of Thermonuclear Reaction Rates in Extremely Dense Stellar Plasmas. *Naoki Itoh, Fumiyoshi Kuwashima, & Hiroharu Munakata.* 362, 620, 178-D9 (1990)

MUNDT, R. Ultraviolet Spectra of HH 1 and HH 2: Spatial Variations and the Continuum Problem. *K.-H. Böhm, Th. Bührke, A. C. Raga, E. W. Brugel, A. N. Witt, & R. Mundt.* 316, 349, 53-G7 (1987)

Optical Jets from the High-Luminosity Young Stars LkHα and AFGL 4029. *T. P. Ray, R. Poetzel, J. Solf, & R. Mundt.* 357, L45, 121-D3 (1990)

MUNDT, REINHARD. Jets from Young Stars: CCD Imaging, Long-Slit Spectroscopy, and Interpretation of Existing Data. *Reinhard Mundt, Edward W. Brugel, & Thomas Bührke.* 319, 275, 96-A6 (1987)

A Close Association of Five Jet and Outflow Sources in the HL Tauri Region. *Reinhard Mundt, Thomas P. Ray, & Thomas Bührke.* 333, L69, 152-D10 (1988)

High Spectral Resolution Observations of the $H_2$2.12 Micron Line in Herbig-Haro Objects. *Hans Zinnecker, Reinhard Mundt, T. R. Geballe, & William J. Zealey.* 342, 337, 105-A7 (1989)

MUNDY, L. G. Interferometric Observations of 1.4 Millimeter Continuum Sources. *D. P. Woody, S. L. Scott, N. Z. Scoville, L. G. Mundy, A. I. Sargent, S. Padin, C. G. Tinney, & C. D. Wilson.* 337, L41, 25-D5 (1989)

Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at γ = 1.4 Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)

A Millimeter-Wave Spectral Line and Continuum Survey of Cold IRAS Sources. *B. A. Wilking, L. G. Mundy, J. H. Blackwell, & J. E. Howe.* 345, 257, 152-C9 (1989)

MUNDY, LEE G. The Circumstellar Environment of LkHα 234. *Bruce A. Wilking, Lee G. Mundy, & Richard D. Schwartz.* 303, L61, 53-D11 (1986)

Protostellar Condensations within the Orion Ridge. *Lee G. Mundy, Nicholas Z. Scoville, Lars B. Bååth, Colin R. Masson, & David P. Woody.* 304, L51, 66-C2 (1986)

Models of Molecular Cloud Cores. II. Multitransition Study of $C^{34}S$. *Lee G. Mundy, Ronald L. Snell, Neal J. Evans II, Paul F. Goldsmith, & John Bally.* 306, 670, 91-G9 (1986)

Resolution of Structure in the Protostellar Source IRAS 16293–2422. *Lee G. Mundy, Bruce A. Wilking, & Steven T. Myers.* 311, L75, 160-D13 (1986)

Submillimeter Spectral Line Observations in Very Dense Regions. *Neal J. Evans II, Lee G. Mundy, John H. Davis, & Paul Vanden Bout.* 312, 344, 4-E13 (1987)

Models of Molecular Cloud Cores. III. A Multitransition Study of H_2CO. *Lee G. Mundy, Neal J. Evans II, Ronald L. Snell, & Paul F. Goldsmith.* 318, 392, 83-B11 (1987)

VLA Observations of H_2CO in Absorption against the Cosmic Background Radiation: Clumps in the S140 Molecular Cloud. *Neal J. Evans II, Marc L. Kutner, & Lee G. Mundy.* 323, 145, 154-F3 (1987)

The Hot Core of Orion: 4″ Maps of HC_3N Emission. *Colin R. Masson & Lee G. Mundy.* 324, 538, 7-B8 (1988)

High-Resolution Images of the Orion Molecular Ridge in the CS J = 2–1 Transition. *Lee G. Mundy, T. J. Cornwell, Colin R. Masson, Nicholas Z. Scoville, Lars B. Bååth, & Lars E. B. Johansson.* 325, 382, 23-D3 (1988)

Circumstellar Material Associated with GL 490. *Lee G. Mundy & Gabrielle A. Adelman.* 329, 907, 87-A11 (1988)

The Molecular Gas Bar in NGC 253. *Blaise Canzian, Lee G. Mundy, & Nicholas Z. Scoville.* 333, 157, 139-F7 (1988)

The Nature of the Radio and Infrared Sources in S140. *Neal J. Evans II, Lee G. Mundy, Marc L. Kutner, & D. L. DePoy.* 346, 212, 168-F10 (1989)

The Circumstellar Structure of IRAS 16293–2422: $C^{18}O$, NH_3, and CO Observations. *Lee G. Mundy, H. A. Wootten, & Bruce A. Wilking.* 352, 159, 52-A4 (1990)

An NH_3 Ring around the Infrared Sources in NGC 2071. *Shudong Zhou, Neal J. Evans II, & Lee G. Mundy.* 355, 159, 88-G12 (1990)

The Extremely High Velocity CO Flow in HH 7–11. *Colin R. Masson, Lee G. Mundy, & Jocelyn Keene.* 357, L25, 115-D7 (1990)

Testing Star Formation Theories: VLA Observations of H_2CO in the Bok Globule B335. *Shudong Zhou, Neal J. Evans II, Harold M. Butner, Marc L. Kutner, Chun Ming Leung, & Lee G. Mundy.* 363, 168, 184-C1 (1990)

High-Resolution, Far-Infrared Observations of NGC 2071. *Harold M. Butner, Neal J. Evans II, Paul M. Harvey, Lee G. Mundy, Antonella Natta, & Maria Sofia Randich.* 364, 164, 196-B1 (1990)

MUNRO, R. H. The Solar Coronal Density Irregularity $\overline{n^2}/(\overline{n})^2$ Derived from Simultaneous Measurements of the EUV and K-coronal Brightness. *F. Q. Orrall, G. J. Rottman, R. R. Fisher, & R. H. Munro.* 349, 656, 23-D4 (1990)

MURAKAMI, AKINORI. Laboratory and Astronomical Detection of the Cyclic H_3H Radical. *Satoshi Yamamoto, Shuji Saito, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, Norio Kaifu, & Akinori Murakami.* 322, L55, 145-D12 (1987)

Detection of a New Circumstellar Carbon-Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)

A Quantum Chemical Study on the Linear C_2S and C_3S Molecules. *Akinori Murakami.* 357, 288, 114-F1 (1990)

MURAKAMI, H. The Submillimeter Spectrum of the Cosmic Background Radiation. *T. Matsumoto, S. Hayakawa, H. Matsuo, H. Murakami, S. Sato, A. E. Lange, & P. L. Richards.* 329, 567, 82-G5 (1988)

A Search for the Near-Infrared Extragalactic Background Light. *T. Matsumoto, M. Akiba, & H. Murakami.* 332, 575, 130-E5 (1988)

MURAKAMI, K. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

MURAKAMI, T. X-Ray Spectrum from Gamma Cassiopeiae. *T. Murakami, K. Koyama, H. Inoue, & P. C. Agrawal.* 310, L31, 138-C5 (1986)

Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W.*

Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai. 335, L71, 185-D5 (1988)

X-Ray Spectral Variability and Complex Absorption in the Seyfert 1 Galaxies NGC 4051 and MCG −6-30-15. *M. Matsuoka, L. Piro, M. Yamauchi, & T. Murakami.* 361, 440, 163-E6 (1990)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

MURAKI, Y. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

MURATA, Y. Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

MURATA, YASUHIRO. Aperture Synthesis Observations of NH_3 in OMC-1: Filamentary Structures around Orion-KL. *Yasuhiro Murata, Ryohei Kawabe, Masato Ishiguro, Koh-Ichiro Morita, Takashi Kasuga, Toshiaki Takano, & Tetsuo Hasegawa.* 359, 125, 135-E9 (1990)

MURDOCH, H. S. Absorption Spectrum of the $z = 3.78$ QSO 2000−330. I. The Lyman-Alpha Forest Region at 1.5 Å Resolution. *R. W. Hunstead, H. S. Murdoch, B. A. Peterson, J. C. Blades, D. L. Jauncey, A. E. Wright, M. Pettini, & A. Savage.* 305, 496, 72-E8 (1986)

Absorption Spectrum of the $z = 3.78$ QSO 2000−330. II. The Redshift and Equivalent Width Distributions of Primordial Hydrogen Clouds. *H. S. Murdoch, R. W. Hunstead, M. Pettini, & J. C. Blades.* 309, 19, 120-B10 (1986)

The Distribution of Lyman-Alpha Absorption Lines in High-Redshift QSOs: The Case for Evolution Reexamined. *R. W. Hunstead, H. S. Murdoch, M. Pettini, & J. C. Blades.* 329, 527, 82-C10 (1988)

MURDOCK, T. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

MURDOCK, T. L. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

MURISON, M. A. Polarization of Light Scattered from the Winds of Early-Type Stars. *J. P. Cassinelli, K. H. Nordsieck, & M. A. Murison.* 317, 290, 67-B1 (1987)

R Coronae Borealis Dust Ejections: A Preferred Plane? *S. A. Stanford, G. C. Clayton, M. R. Meade, K. H. Nordsieck, B. A. Whitney, M. A. Murison, M. A. Nook, & C. M. Anderson.* 325, L9, 25-A14 (1988)

MURPHY, D. C. A Composite CO Survey of the Entire Milky Way. *T. M. Dame, H. Ungerechts, R. S. Cohen, E. J. de Geus, I. A. Grenier, J. May, D. C. Murphy, L.-Å. Nyman, & P. Thaddeus.* 322, 706, 147-D13 (1987)

MURPHY, G. A. Stokes Profile Analysis and Vector Magnetic Fields. III. Extended Temperature Minima of Sunspot Umbrae as Inferred from Stokes Profiles of Mg I λ4571. *B. W. Lites, A. Skumanich, D. E. Rees, G. A. Murphy, & M. Carlsson.* 318, 930, 91-B6 (1987)

Stokes Profile Analysis and Vector Magnetic Fields. IV. Synthesis and Inversion of the Chromospheric Mg I *b* Lines. *B. W. Lites, A. Skumanich, D. E. Rees, & G. A. Murphy.* 330, 493, 95-G1 (1988)

Stokes Profile Analysis and Vector Magnetic Fields. II. Formal Numerical Solutions of the Stokes Transfer Equations. *D. E. Rees, G. A. Murphy, & C. J. Durrant.* 339, 1093, 65-B8 (1989)

MURPHY, H. P. Two-dimensional Images of Alpha Orionis. *J. C. Hebden, J. C. Christou, A. Y. S. Cheng, E. K. Hege, P. A. Strittmatter, J. M. Beckers, & H. P. Murphy.* 309, 745, 129-D5 (1986)

MURPHY, M. J. A Potential Background Problem in Gamma-Ray Observations of SN 1987A. *M. J. Murphy.* 334, L95, 169-E7 (1988)

MURPHY, R. J. High-Energy Processes in Solar Flares. *R. J. Murphy, C. D. Dermer, & R. Ramaty.* 63, 721, 11-D13 (1987)

On the Origin of the Pion-Decay Radiation in the 1982 June 3 Solar Flare. *R. Ramaty, R. J. Murphy, & C. D. Dermer.* 316, L41, 56-D3 (1987)

Gamma-Ray Spectroscopic Tests for the Anisotropy of Accelerated Particles in Solar Flares. *R. J. Murphy, B. Kozlovsky, & R. Ramaty.* 331, 1029, 120-C8 (1988)

^{7}Li and ^{7}Be De-Excitation Lines: Probes for Accelerated Particle Transport Models in Solar Flares. *R. J. Murphy, X.-M. Hua, B. Kozlovsky, & R. Ramaty.* 351, 299, 41-G1 (1990)

Nuclear Line Spectroscopy of the 1981 April 27 Solar Flare. *R. J. Murphy, G. H. Share, J. R. Letaw, & D. J. Forrest.* 358, 298, 125-G1 (1990)

MURPHY, STUART C. *Ab Initio* Geometries for $C_{2n+1}H$, $C_{2n+1}H^+$, and $C_{2n+1}H_2$ Species for $n = 1, 2, 3$. *David L. Cooper & Stuart C. Murphy.* 333, 482, 143-D3 (1988)

MURRAY, J. D. Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)

MURRAY, STEPHEN D. Gas Clouds in Galactic Bulges. *William G. Mathews & Stephen D. Murray.* 312, 66, 1-F12 (1987)

The Fragmentation of Proto–Globular Clusters. I. Thermal Instabilities. *Stephen D. Murray & Douglas N. C. Lin.* 339, 933, 63-C8 (1989)

The Fragmentation of Proto–Globular Clusters. I. Thermal Instabilities: Erratum. *Stephen D. Murray & Douglas N. C. Lin.* 344, 1052, 147-C2 (1989) (Orig. paper in 339, 933, 63-C8 (1989))

The Fragmentation of Proto–Globular Clusters. II. Gravitational Instabilities. *Stephen D. Murray & Douglas N. C. Lin.* 346, 155, 168-A6 (1989)

On the Origin of Metal Homogeneities in Globular Clusters. *Stephen D. Murray & Douglas N. C. Lin.* 357, 105, 112-D1 (1990)

On the Fragmentation of Protogalactic Clouds. *Stephen D. Murray & Douglas N. C. Lin.* 363, 50, 182-G1 (1990)

MURRAY, STEPHEN S. A Search for the Sunyaev-Zel'dovich Effect at $\lambda = 3$ Millimeters. *Simon J. E. Radford, Paul E. Boynton, Bobby L. Ulich, R. Bruce Partridge, Robert A. Schommer, Antony A. Stark, Robert W. Wilson, & Stephen S. Murray.* 300, 159, 2-F13 (1986)

MURTHY, J. *IUE* Observations of Interstellar Hydrogen and Deuterium toward Alpha Centauri B. *W. B. Landsman, J. Murthy, R. C. Henry, H. W. Moos, J. L. Linsky, & J. L. Russell.* 303, 791, 51-B12 (1986)

IUE Observations of Hydrogen and Deuterium in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, W. B. Landsman, J. L. Linsky, A. Vidal-Madjar, & C. Gry.* 315, 675, 48-A10 (1987)

IUE Observations of the Interstellar Medium toward β Geminorum. *J. Murthy, J. B. Wofford, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 336, 949, 14-C6 (1989)

The Diffuse Far-Ultraviolet Cosmic Background Radiation Field Observed from the Space Shuttle. *J. Murthy, R. C. Henry, P. D. Feldman, & P. D. Tennyson.* 336, 954, 14-D1 (1989)

Studies of H I and D I in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 356, 223, 101-G5 (1990)

MUSHOTZKY, R. Are the Virial Masses of Clusters Smaller than We Think? *L. L. Cowie, M. Henriksen, & R. Mushotzky.* 317, 593, 72-E11 (1987)
MUSHOTZKY, R. F. X-Ray Absorption in Active Galaxies: Constraints on the Broad-Line Emitting Regions. *G. A. Reichert, R. F. Mushotzky, & S. S. Holt.* 303, 87, 42-A4 (1986)
The Detection of Distant Cooling Flows and the Formation of Dark Matter. *A. C. Fabian, K. A. Arnaud, P. E. J. Nulsen, & R. F. Mushotzky.* 305, 9, 67-B1 (1986)
X-Ray Spectroscopy of Five BL Lacertae Objects. *C. M. Urry, R. F. Mushotzky, & S. S. Holt.* 305, 369, 71-C1 (1986)
On the Ratio of the Infrared-to-Ultraviolet Continuum to the X-Rays in Quasars and Active Galaxies. *R. F. Mushotzky & A. Wandel.* 339, 674, 60-B9 (1989)
X-Ray Study of Superclusters. *M. Persic, K. Jahoda, Y. Rephaeli, E. Boldt, F. E. Marshall, R. F. Mushotzky, & G. Rawley.* 364, 1, 194-A12 (1990)
MUSHOTZKY, RICHARD F. The X-Ray Spectrum of the Coma Cluster of Galaxies. *Mark J. Henriksen & Richard F. Mushotzky.* 302, 287, 31-B14 (1986)
Observational Determination of the Masses of Active Galactic Nuclei. *Amri Wandel & Richard F. Mushotzky.* 306, L61, 93-F10 (1986)
A Search for X-Ray Emission Associated with the Great Attractor. *Keith Jahoda & Richard F. Mushotzky.* 346, 638, 175-D1 (1989)
MUSIELAK, Z. E. On the Generation of Magnetohydrodynamic Waves in a Stratified and Magnetized Fluid. I. Vertical Propagation. *Z. E. Musielak & R. Rosner.* 315, 371, 44-A5 (1987)
On the Generation of Magnetohydrodynamic Waves in a Stratified and Magnetized Fluid. II. Magnetohydromagnetic Energy Fluxes for Late-Type Stars. *Z. E. Musielak & R. Rosner.* 329, 376, 79-C1 (1988)
Magnetohydrodynamic Bending Waves in a Current Sheet. *Z. E. Musielak & S. T. Suess.* 330, 456, 95-D1 (1988)
On the Generation of Flux Tube Waves in Stellar Convection Zones. I. Longitudinal Tube Waves Driven by External Turbulence. *Z. E. Musielak, R. Rosner, & P. Ulmschneider.* 337, 470, 23-D1 (1989)
Propagating and Nonpropagating Compression Waves in an Isothermal Atmosphere with Uniform Horizontal Magnetic Field. *Z. E. Musielak, C.-H. An, R. L. Moore, & S. T. Suess.* 344, 478, 138-G10 (1989)
Reflection and Trapping of Transient Alfvén Waves Propagating in an Isothermal Atmosphere with Constant Gravity and Uniform Magnetic Field. *C.-H. An, Z. E. Musielak, R. L. Moore, & S. T. Suess.* 345, 597, 156-D9 (1989)
Why DA and DB White Dwarfs Do Not Show Coronal Activity and *p*-Mode Oscillations. *Z. E. Musielak & J. M. Fontenla.* 346, 435, 171-E1 (1989)
Reflection and Trapping of Alfvén Waves in a Spherically Symmetric Stellar Atmosphere. *C.-H. An, S. T. Suess, R. L. Moore, & Z. E. Musielak.* 350, 309, 28-G3 (1990)
Conditions for Vertical Propagation of Magnetoacoustic Waves in an Isothermal Atmosphere. *Z. E. Musielak.* 351, 287, 41-F1 (1990)
MUSIELAK, ZDZISLAW E. Wave Energy in White Dwarf Atmospheres. I. Magnetohydrodynamic Energy Spectra for Homogeneous DB and Layered DA Stars. *Zdzislaw E. Musielak.* 322, 234, 140-D8 (1987)
MUSSER, J. A. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)
MUSTAFA, ERROL. Gamma-Ray Pulsar Model. *Jeffrey M. Cohen & Errol Mustafa.* 319, 930, 105-B5 (1987)
MUTEL, R. L. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)
The Structure of Compact Double Radio Sources: 610 MHz VLBI Observations of 1518+047 and 2050+364. *R. L. Mutel & M. W. Hodges.* 307, 472, 101-G3 (1986)
Superluminal Motion toward a Stationary Knot in the Radio Core of the Quasar 3C 395. *R. S. Simon, J. Hall, K. J. Johnston, J. H. Spencer, J. A. Waak, & R. L. Mutel.* 326, L5, 38-A8 (1988)
VLBI Observations of a Pulsar's Scattering Disk. *C. R. Gwinn, J. M. Cordes, N. Bartel, A. Wolszczan, & R. L. Mutel.* 334, L13, 161-B10 (1988)
VLBI Angular Broadening Measurements in the Cygnus Region. *A. L. Fey, S. R. Spangler, & R. L. Mutel.* 337, 730, 28-B1 (1989)
Interstellar Scattering of the Compact Radio Source 2005+403. *R. L. Mutel & Jean-François Lestrade.* 349, L47, 24-C1 (1990)
Superluminal Motion of the Radio Core of BL Lacertae: 1980.4–1988.3. *R. L. Mutel, R. B. Phillips, Bumei Su, & R. R. Bucciferro.* 352, 81, 51-B1 (1990)
MUTEL, ROBERT L. Interstellar Scattering of Compact Radio Sources near Supernova Remnants. *Steven R. Spangler, Robert L. Mutel, John M. Benson, & James M. Cordes.* 301, 312, 17-C8 (1986)
The Distribution of Maser Emission in OH/IR Stars. *Alan D. Welty, John D. Fix, & Robert L. Mutel.* 318, 852, 90-C10 (1987)
A Study of the Ground-State Hydroxyl Maser Emission Associated with 11 Regions of Star Formation. *Ralph A. Gaume & Robert L. Mutel.* 65, 193, 31-A5 (1987)
Dual Frequency and Dual Polarization VLBI Observations of the Stellar System Algol. *Jean-François Lestrade, Robert L. Mutel, Robert A. Preston, & Robert B. Phillips.* 328, 232, 64-E1 (1988)
A Magnetospheric Model for Radio Emission from Active, Late-Type Binary Stars. *Dirk H. Morris, Robert L. Mutel, & Bumei Su.* 362, 299, 172-G11 (1990)
MUXLOW, T. W. B. VLBI and MERLIN Observations of 3C 120 at 1.7 GHz: Superluminal Motions beyond 0.″05. *J. M. Benson, R. C. Walker, S. C. Unwin, T. W. B. Muxlow, P. N. Wilkinson, R. S. Booth, G. Pilbratt, & R. S. Simon.* 334, 560, 162-D9 (1988)
Subluminal Motion and Limb Brightening in the Nuclear Jet of M87. *M. J. Reid, J. A. Biretta, W. Junor, T. W. B. Muxlow, & R. E. Spencer.* 336, 112, 2-D1 (1989)
MUZZIO, JUAN C. Massive Central Galaxies, Globular Cluster Swapping, and Tidal Accretion. *Juan C. Muzzio.* 301, 23, 14-C2 (1986)
Globular Cluster Swapping: Where Are the Lost Globulars? *Juan C. Muzzio.* 306, 44, 81-E14 (1986)
Tidal Stripping and Accretion in Clusters of Galaxies with Smoothly Distributed Missing Mass. *Juan C. Muzzio, Victor H. Dessanuet, & M. Marcela Vergne.* 313, 112, 16-C4 (1987)
MYERS, P. C. Molecular Clouds and Star Formation in the Inner Galaxy: A Comparison of CO, H II, and Far-Infrared Surveys. *P. C. Myers, T. M. Dame, P. Thaddeus, R. S. Cohen, R. F. Silverberg, E. Dwek, & M. G. Hauser.* 301, 398, 18-B12 (1986)
CO Observations of Southern High-Latitude Clouds. *E. R. Keto & P. C. Myers.* 304, 466, 59-A2 (1986)
The Excitation, Abundance, and Distribution of HNCO in Sagittarius B2. *E. Churchwell, D. Wood, P. C. Myers, & Roy V. Myers.* 305, 405, 71-E10 (1986)
Candidate Solar-Type Protostars in Nearby Molecular Cloud Cores. *C. A. Beichman, P. C. Myers, J. P. Emerson, S. Harris, R. Mathieu, P. J. Benson, & R. E. Jennings.* 307, 337, 98-F13 (1986)
Near-Infrared and Optical Observations of IRAS Sources in and near Dense Cores. *P. C. Myers, Gary A. Fuller, R. D. Mathieu, C. A. Beichman, P. J. Benson, R. E. Schild, & J. P. Emerson.* 319, 340, 96-F5 (1987)
Dense Cores in Dark Clouds. V. CO Outflow. *P. C. Myers, M. Heyer, Ronald L. Snell, & P. F. Goldsmith.* 324, 907, 13-D9 (1988)
Evidence for Magnetic and Virial Equilibrium in Molecular Clouds. *P. C. Myers & A. A. Goodman.* 326, L27, 38-C6 (1988)
Magnetic Molecular Clouds: Indirect Evidence for Magnetic Support and Ambipolar Diffusion. *P. C. Myers & A. A. Goodman.* 329, 392, 79-D4 (1988)
Measurement of Magnetic Field Strength in the Dark Cloud Barnard 1. *A. A. Goodman, R. M. Crutcher, C. Heiles, P. C. Myers, & T. H. Troland.* 338, L61, 49-C5 (1989)
High-Resolution CO Observations of Young Low-Mass Stars. *S. Terebey, S. N. Vogel, & P. C. Myers.* 340, 472, 73-B5 (1989)
A Survey for Dense Cores in Dark Clouds. *P. J. Benson & P. C. Myers.* 71, 89, 34-C7 (1989)

Radio Continuum Observations of *IRAS* Sources Associated with Dense Cores. *L. F. Rodríguez, P. C. Myers, I. Cruz-González, & S. Terebey.* 347, 461, 187-F11 (1989)

Optical Polarization Maps of Star-forming Regions in Perseus, Taurus, and Ophiuchus. *A. A. Goodman, P. Bastien, P. C. Myers, & F. Ménard.* 359, 363, 140-E6 (1990)

MYERS, PHILIP C. The Circumstellar Envelope of W3(OH): NH_3 Observations. *Mark J. Reid, Philip C. Myers, & John H. Bieging.* 312, 830, 12-A9 (1987)

A Survey of IRAS Point Sources in Taurus for High-Velocity Molecular Gas. *Mark H. Heyer, Ronald L. Snell, Paul F. Goldsmith, & Philip C. Myers.* 321, 370, 126-C3 (1987)

L43: An Example of Interaction between Molecular Outflows and Dense Cores. *Robert D. Mathieu, Priscilla J. Benson, Gary A. Fuller, Philip C. Myers, & Rudolph E. Schild.* 330, 385, 94-E1 (1988)

A CS Survey of Low-Mass Cores and Comparison with NH_3 Observations. *Shudong Zhou, Yuefang Wu, Neal J. Evans II, Gary A. Fuller, & Philip C. Myers.* 346, 168, 168-B11 (1989)

MYERS, ROY V. The Excitation, Abundance, and Distribution of HNCO in Sagittarius B2. *E. Churchwell, D. Wood, P. C. Myers, & Roy V. Myers.* 305, 405, 71-E10 (1986)

MYERS, S. T. A Limit on the Anisotropy of the Microwave Background Radiation on Arcminute Scales. *A. C. S. Readhead, C. R. Lawrence, S. T. Myers, W. L. W. Sargent, H. E. Hardebeck, & A. T. Moffet.* 346, 566, 174-E1 (1989)

MYERS, STEVEN T. Resolution of Structure in the Protostellar Source IRAS 16293–2422. *Lee G. Mundy, Bruce A. Wilking, & Steven T. Myers.* 311, L75, 160-D13 (1986)

The Molecular Cloud Ring in NGC 1068. *Steven T. Myers & N. Z. Scoville.* 312, L39, 14-B6 (1987)

MYRA, E. S. The Effects of Neutrino Transport on the Collapse of Iron Stellar Cores. *E. S. Myra, S. A. Bludman, Y. Hoffman, I. Lichenstadt, N. Sack, & K. A. Van Riper.* 318, 744, 89-B2 (1987)

General Relativistic Neutrino Transport in Stellar Collapse. *E. Baron, E. S. Myra, J. Cooperstein, & L. J. van den Horn.* 339, 978, 63-G1 (1989)

MYRA, ERIC S. Neutrino Transport and the Prompt Mechanism for Type II Supernovae. *Eric S. Myra & Sidney A. Bludman.* 340, 384, 72-A9 (1989)

Neutrinos from Type II Supernovae: The First 100 Milliseconds. *Eric S. Myra & Adam Burrows.* 364, 222, 196-G1 (1990)

NADEAU, DANIEL. A Determination of the Shifts Induced in the Visible and Infrared Lines of Iron by the Convective Motions in the Solar Photosphere. *Daniel Nadeau.* 325, 480, 24-D8 (1988)

Observational Evidence of Line Shifts Induced by the Convective Overshoot in the Atmosphere of Red Giants. *Daniel Nadeau & Jean-Pierre Maillard.* 327, 321, 50-E1 (1988)

The Molecular Hydrogen Emission from the Cepheus A Star Formation Region. *René Doyon & Daniel Nadeau.* 334, 883, 166-B9 (1988)

NADEAU, RAYMOND. Circular Polarization in T Tauri Stars. *Raymond Nadeau & Pierre Bastien.* 307, L5, 100-A8 (1986)

Circular Polarization in T Tauri Stars. II. New Observations and Evidence for Multiple Scattering. *Pierre Bastien, Carmelle Robert, & Raymond Nadeau.* 339, 1089, 65-B4 (1989)

NADLER, S. Infrared Fluorescence Efficiencies for the ν_1 and ν_5 Bands of Formaldehyde in the Solar Radiation Field. *D. C. Reuter, M. J. Mumma, & S. Nadler.* 341, 1045, 98-B1 (1989)

NAGANO, M. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

NAGAR, PRAVEEN. 41 Sextantis A: Prototype of a New Class among Am Stars. *S. Sreedhar Rao, K. D. Abhyankar, & Praveen Nagar.* 365, 336, 210-E7 (1990)

NAGASE, F. Orbital Elements of the Binary X-Ray Pulsar GX 301–2. *N. Sato, F. Nagase, N. Kawai, R. L. Kelley, S. Rappaport, & N. E. White.* 304, 241, 56-E6 (1986)

Spectra and Pulse Period of the Binary X-Ray Pulsar 4U 1538–52. *K. Makishima, K. Koyama, S. Hayakawa, & F. Nagase.* 314, 619, 36-C10 (1987)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

NAGASE, FUMIAKI. *Ginga* Observations of the 50 Millisecond Pulsar PSR 0540–69. *Fumiaki Nagase, John Deeter, Wayne Lewis, Tadayasu Dotani, Fumiyoshi Makino, & Kazuhisa Mitsuda.* 351, L13, 43-C1 (1990)

Discovery of a Cyclotron Absorption Line in the Spectrum of the Binary X-Ray Pulsar 4U 1538–52 Observed by *Ginga*. *George W. Clark, Jonathan W. Woo, Fumiaki Nagase, Kazuo Makishima, & Taro Sakao.* 353, 274, 65-E8 (1990)

NAGASHIMA, Y. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

NAGATA, T. 3 Micron Spectroscopy of Comet Halley (1982i). *A. T. Tokunaga, R. G. Smith, T. Nagata, D. L. DePoy, & K. Sellgren.* 310, L45, 138-D3 (1986)

High Spectral Resolution Observations of HD 44179 at 3.2–3.7 Microns. *A. T. Tokunaga, T. Nagata, K. Sellgren, R. G. Smith, T. Onaka, Y. Nakada, A. Sakata, & S. Wada.* 328, 709, 70-G6 (1988)

NAGATA, TETSUYA. Fluorescent Molecular Hydrogen Emission from the Reflection Nebula NGC 2023. *Ian Gatley, Tetsuo Hasegawa, Hiroko Suzuki, Ron Garden, Peter Brand, John Lightfoot, William Glencross, Haruyuki Okuda, & Tetsuya Nagata.* 318, L73, 92-D4 (1987)

High-Resolution Spectroscopy of the 3 Micron Emission Features in NGC 7027 and IRAS 21282+5050. *Tetsuya Nagata, Alan T. Tokunaga, K. Sellgren, Robert G. Smith, Takashi Onaka, Yoshikazu Nakada, & Akira Sakata.* 326, 157, 33-G5 (1988)

Infrared Images and Spectroscopy of the Bipolar Source IRAS 09371+1212. *Klaus-Werner Hodapp, K. Sellgren, & Tetsuya Nagata.* 326, L61, 46-C1 (1988)

Infrared Reflection Nebulae around GL 490 and R Monocerotis: Shell Structure and Possible Large Dust Grains. *Takuya Yamashita, Shuji Sato, Tetsuya Nagata, Ian Gatley, Saeko S. Hayashi, & Yasuo Fukui.* 336, 832, 12-G2 (1989)

An Infrared Study of Starbursts in the Interacting Galaxy Pair Arp 299 (NGC 3690 + IC 694). *Takao Nakagawa, Tetsuya Nagata, T. R. Geballe, Haruyuki Okuda, Hiroshi Shibai, & Hideo Matsuhara.* 340, 729, 77-E1 (1989)

Observation of Interstellar Polarization at 2.2 and 3.8 Microns. *Tetsuya Nagata.* 348, L13, 6-B6 (1990)

AFGL 2004: An Infrared Quintuplet near the Galactic Center. *Tetsuya Nagata, Charles E. Woodward, Mark Shure, Judith L. Pipher, & Haruyuki Okuda.* 351, 83, 39-B1 (1990)

An Infrared Quintuplet near the Galactic Center. *Haruyuki Okuda, Hiroshi Shibai, Takao Nakagawa, Hideo Matsuhara, Yukiyasu Kobayashi, Norio Kaifu, Tetsuya Nagata, I. Gatley, & T. R. Geballe.* 351, 89, 39-B11 (1990)

Infrared Polarimetry of the NGC 6334 V Bipolar Nebula. *Takao Nakagawa, Tetsuya Nagata, Hideo Matsuhara, Haruyuki Okuda, Hiroshi Shibai, & Saeko S. Hayashi.* 351, 573, 47-C1 (1990)

Three Micron Ice-Band Features in the ρ Ophiuchi Sources. *Masuo Tanaka, Shuji Sato, Tetsuya Nagata, & Tetsuo Yamamoto.* 352, 724, 60-A3 (1990)

Three Micron Spectroscopy of Low-Mass Pre–Main-Sequence Stars. *Shuji Sato, Tetsuya Nagata, Masuo Tanaka, & Tetsuo Yamamoto.* 359, 192, 136-D7 (1990)

NAGEL, THOMAS. The Granulation Boundary in the H-R Diagram. *David F. Gray & Thomas Nagel.* 341, 421, 89-A11 (1989)

NAGENDRA, K. N. Resonance Line Polarization in Spherical Atmospheres. *K. N. Nagendra.* 335, 269, 173-E1 (1988)

NAJITA, JOAN. Mass Loss from Rapidly Rotating Magnetic Protostars. *Frank H. Shu, Susana Lizano, Steven P. Ruden, & Joan Najita.* 328, L19, 66-E7 (1988)

Dust Obscuration by an Evolving Galaxy Population. *Joan Najita, Joseph Silk, & Kenneth W. Wachter.* 348, 383, 7-D1 (1990)

NAKADA, Y. Water Maser Emission toward V788 Cygni, a Carbon Star. *Y. Nakada, H. Izumiura, T. Onaka, O. Hashimoto, N. Ukita, S. Deguchi, & T. Tanabé.* 323, L77, 158-F6 (1987)

Position Confirmation of Water Maser Emission from V778 Cygni, a Carbon Star. *S. Deguchi, R. Kawabe, N. Ukita, Y. Nakada, T. Onaka, H. Izumiura, & Sadanori Okamura.* 325, 795, 29-C5 (1988)

High Spectral Resolution Observations of HD 44179 at 3.2–3.7 Microns. *A. T. Tokunaga, T. Nagata, K. Sellgren, R. G. Smith, T. Onaka, Y. Nakada, A. Sakata, & S. Wada.* 328, 709, 70-G6 (1988)

The 3.3 Micron Feature, H_2, and Ionized Gas in the Orion Bar. *K. Sellgren, A. T. Tokunaga, & Y. Nakada.* 349, 120, 15-D8 (1990)

NAKADA, YOSHIKAZU. High-Resolution Spectroscopy of the 3 Micron Emission Features in NGC 7027 and IRAS 21282+5050. *Tetsuya Nagata, Alan T. Tokunaga, K. Sellgren, Robert G. Smith, Takashi Onaka, Yoshikazu Nakada, & Akira Sakata.* 326, 157, 33-G5 (1988)

NAKAGAWA, M. Simultaneous X-Ray and Optical Observations of GX 339−4 in an X-Ray High State. *K. Makishima, Y. Maejima, K. Mitsuda, H. V. Bradt, R. A. Remillard, I. R. Tuohy, R. Hoshi, & M. Nakagawa.* 308, 635, 116-A1 (1986)

NAKAGAWA, MASAYUKI. Relativistic Free-free Gaunt Factor of the Dense High-Temperature Stellar Plasma. *Masayuki Nakagawa, Yasuharu Kohyama, & Naoki Itoh.* 63, 661, 10-E14 (1987)

Axion Bremsstrahlung in Dense Stars. *Masayuki Nakagawa, Yasuharu Kohyama, & Naoki Itoh.* 322, 291, 141-A9 (1987)

Axion Bremsstrahlung in Dense Stars. II. Phonon Contributions. *Masayuki Nakagawa, Tomoo Adachi, Yasuharu Kohyama, & Naoki Itoh.* 326, 241, 34-G7 (1988)

Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes. *Naoki Itoh, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 339, 354, 54-D5 (1989)

Relativistic Free-free Gaunt Factor of the Dense High-Temperature Stellar Plasma. II. Carbon and Oxygen Plasmas. *Naoki Itoh, Koichi Kojo, & Masayuki Nakagawa.* 74, 291, 34-B1 (1990)

Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes: Erratum. *Itoh Naoki, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 360, 741, 155-C13 (1990) (Orig. paper in 352, 361, 54-D1 (1990))

NAKAGAWA, TAKAO. A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)

An Infrared Study of Starbursts in the Interacting Galaxy Pair Arp 299 (NGC 3690 + IC 694). *Takao Nakagawa, Tetsuya Nagata, T. R. Geballe, Haruyuki Okuda, Hiroshi Shibai, & Hideo Matsuhara.* 340, 729, 77-E1 (1989)

An Infrared Quintuplet near the Galactic Center. *Haruyuki Okuda, Hiroshi Shibai, Takao Nakagawa, Hideo Matsuhara, Yukiyasu Kobayashi, Norio Kaifu, Tetsuya Nagata, I. Gatley, & T. R. Geballe.* 351, 89, 39-B11 (1990)

Infrared Polarimetry of the NGC 6334 V Bipolar Nebula. *Takao Nakagawa, Tetsuya Nagata, Hideo Matsuhara, Haruyuki Okuda, Hiroshi Shibai; & Saeko S. Hayashi.* 351, 573, 47-C1 (1990)

NAKAGAWA, Y. Induced Mass and Wave Motions in the Lower Solar Atmosphere. II. Effects of Converging and Diverging Photospheric Motions. *S. T. Wu, Y. Q. Hu, Y. Nakagawa, & E. Tandberg-Hanssen.* 306, 751, 92-F9 (1986)

NAKAGAWA, YOSHITSUGU. Cooling and Quasi-static Contraction of the Primitive Solar Nebula after Gas Accretion. *Sei-ichiro Watanabe, Yoshitsugu Nakagawa, & Kiyoshi Nakazawa.* 358, 282, 125-E11 (1990)

NAKAGIRI, M. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)

NAKAHATA, M. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

NAKAI, N. Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

Detection of H53α Emission from M82: A Reliable Measure of the Ionization Rate and Its Implications. *P. J. Puxley, P. W. J. L. Brand, T. J. T. Moore, C. M. Mountain, N. Nakai, & T. Yamashita.* 345, 163, 151-B1 (1989)

NAKAI, NAOMASA. Observations of Molecular and Atomic Clouds in M31. *Charles J. Lada, Michael Margulis, Yoshiaki Sofue, Naomasa Nakai, & Toshihiro Handa.* 328, 143, 63-E7 (1988)

High-Resolution CO Observations of NGC 1068. *Noboru Kaneko, Kazuhiko Morita, Yasuo Fukui, Koji Sugitani, Takahiro Iwata, Naomasa Nakai, Norio Kaifu, & Harvey S. Liszt.* 337, 691, 27-E7 (1989)

The Asymmetric CO Distribution in the Virgo Cluster Spiral NGC 4419. *Jeffrey D. P. Kenney, Judith S. Young, Tetsuo Hasegawa, & Naomasa Nakai.* 353, 460, 69-F7 (1990)

Circumnuclear Molecular Gas in Seyfert Galaxies. *Yoshiaki Taniguchi, Osamu Kameya, Naomasa Nakai, & Kimiaki Kawara.* 358, 132, 123-E10 (1990)

CO Emission from the Nucleus of Infrared Galaxy NGC 4418: An Early AGN Phase? *Kimiaki Kawara, Yoshiaki Taniguchi, Naomasa Nakai, & Yoshiaki Sofue.* 365, L1, 212-A5 (1990)

NAKAJIMA, H. Current Loop Coalescence Model of Solar Flares. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 321, 1031, 135-F10 (1987)

Current Loop Coalescence Model of Solar Flares: Erratum. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 329, 517, 80-G1 (1988) (Orig. paper in 321, 1031, 135-F10 (1987))

A High-Speed Shock Wave in the Impulsive Phase of the 1984 April 24 Flare. *H. Nakajima, S. Kawashima, N. Shinohara, Y. Shiomi, S. Enome, & E. Rieger.* 73, 177, 20-B1 (1990)

NAKAJIMA, T. The Optical/Infrared Counterpart(s) of IRAS 18333−2357. *F. C. Gillett, G. H. Jacoby, R. R. Joyce, J. G. Cohen, G. Neugebauer, B. T. Soifer, T. Nakajima, & K. Matthews.* 338, 862, 44-F1 (1989)

NAKAMURA, K. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura,*

S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang. 359, 574, 143-B6 (1990)

NAKAMURA, NORIO. The Difference in Hydrogen Abundance between Two Classes of Type I X-Ray Bursts. *Toshikazu Ebisuzaki & Norio Nakamura.* 328, 251, 64-F9 (1988)

NAKAMURA, T. Rotating Stellar Collapse Model for Supernova SN 1987A. *T. Nakamura & M. Fukugita.* 337, 466, 23-C8 (1989)

Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

NAKAMURA, TAKASHI. The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. I. Basic Equations and Numerical Methods. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 326, 208, 34-D7 (1988)

Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. II. The Extreme Case: Nonrotating Clouds. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 335, 239, 173-B9 (1988)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. III. Critical Mass. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 341, 220, 86-F1 (1989)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. III. Critical Mass: Erratum. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 346, 1061, 180-C3 (1989) (Orig. paper in 341, 220, 86-F1 (1989))

Spin-up of a Rapidly Rotating Star by Angular Momentum Loss. *Stuart L. Shapiro, Saul A. Teukolsky, & Takashi Nakamura.* 357, L17, 115-C11 (1990)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. IV. Quasi-static Evolution. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 362, 202, 171-F3 (1990)

NAKANAGA, T. Laboratory Measurements of the Abundance Ratio $[HCO^+]/[HOC^+]$ and Their Astrophysical Implications. *T. Amano & T. Nakanaga.* 328, 373, 66-C2 (1988)

NAKANO, G. H. High-Resolution Observations of Gamma-Ray Line Emission from SN 1987A. *W. G. Sandie, G. H. Nakano, L. F. Chase, Jr., G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, & G. P. Lasche.* 334, L91, 169-E2 (1988)

NAKANO, M. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)

NAKANO, MAKOTO. A Further Study of the Molecular Cloud Associated with the Supernova Remnant G109.1−1.0. *Ken'ichi Tatematsu, Yasuo Fukui, Takahiro Iwata, Frederick D. Seward, & Makoto Nakano.* 351, 157, 40-A4 (1990)

NAKANO, TAKENORI. Conditions for the Formation of Massive Stars through Nonspherical Accretion. *Takenori Nakano.* 345, 464, 154-G10 (1989)

The Density Distribution in the Beta Pictoris Dust Disk. *Takenori Nakano.* 355, L43, 98-D3 (1990)

NAKAYAMA, MASATOSHI. Bipolar Outflow in B335. *Naomi Hirano, Osamu Kameya, Masatoshi Nakayama, & Keiya Takakubo.* 327, L69, 61-D1 (1988)

NAKAZAKI, S. Effective Collision Strengths for Electron Impact Excitation in S II. *S. S. Tayal, J. W. Henry, & S. Nakazaki.* 313, 487, 20-C10 (1987)

NAKAZAWA, KIYOSHI. Cooling and Quasi-static Contraction of the Primitive Solar Nebula after Gas Accretion. *Sei-ichiro Watanabe, Yoshitsugu Nakagawa, & Kiyoshi Nakazawa.* 358, 282, 125-E11 (1990)

NAMBU, M. Comments on "Nonexistence of Two Forms of Turbulent Bremsstrahlung" by J. Kuijpers and D. B. Melrose. *M. Nambu.* 303, 347, 44-G9 (1986)

NAMIKAWA, TOMIKAZU. The α-Effect Generated by Random Alfvén Waves in a Stratified Atmosphere and Particle Acceleration. *Tomikazu Namikawa, Hiromitsu Hamabata, & Hiroyuki Wada.* 323, 414, 157-F3 (1987)

NANDKUMAR, RADHA. Vortex Creep and the Internal Temperature of Neutron Stars: Timing Noise in Pulsars. *M. Ali Alpar, Radha Nandkumar, & David Pines.* 311, 197, 148-B11 (1986)

NANNI, D. II Zw 1305.4+2941 at $z = 0.24$: Another Rich, Red, Compact Cluster. *David C. Koo, Richard G. Kron, D. Nanni, D. Trevese, & A. Vignato.* 333, 586, 146-D8 (1988)

NAOKI, ITOH. Neutrino Energy Loss in Stellar Interiors. III. Pair, Photo-, Plasma, and Bremsstrahlung Processes: Erratum. *Itoh Naoki, Tomoo Adachi, Masayuki Nakagawa, Yasuharu Kohyama, & Hiroharu Munakata.* 360, 741, 155-C13 (1990) (Orig. paper in 352, 361, 54-D1 (1990))

NARASIMHA, D. The Gravitational Lens System 2016+112 Revisited. *D. Narasimha, K. Subramanian, & S. M. Chitre.* 315, 434, 45-D11 (1987)

Giant Luminous Arcs in Galaxy Clusters. *D. Narasimha & S. M. Chitre.* 332, 75, 123-G9 (1988)

A Doppler Interpretation for Close Pairs and Compact Groups of Quasars. *D. Narasimha & J. V. Narlikar.* 338, 44, 33-E8 (1989)

NARAYAN, R. 1146+111B,C: A Giant Gravitational Lens? *R. D. Blandford, E. S. Phinney, & R. Narayan.* 313, 28, 15-C6 (1987)

NARAYAN, RAMESH. Flicker of Extragalactic Radio Sources and Refractive Interstellar Scintillation. *Roger Blandford, Ramesh Narayan, & Roger W. Romani.* 301, L53, 27-C3 (1986)

Fermat's Principle, Caustics, and the Classification of Gravitational Lens Images. *Roger Blandford & Ramesh Narayan.* 310, 568, 140-A8 (1986)

Refractive Interstellar Scintillation in 1741−038. *R. M. Hjellming & Ramesh Narayan.* 310, 768, 142-C12 (1986)

The Birthrate and Initial Spin Period of Single Radio Pulsars. *Ramesh Narayan.* 319, 162, 94-G1 (1987)

Arcs from Gravitational Lensing. *Scott A. Grossman & Ramesh Narayan.* 324, L37, 18-A9 (1988)

Theory of Anisotropic Refractive Scintillation: Application to Stellar Occultations by Neptune. *Ramesh Narayan & W. B. Hubbard.* 325, 503, 24-F5 (1988)

Pulsars and Supernova Remnants. *Ramesh Narayan & Kimberly J. Schaudt.* 325, L43, 31-D5 (1988)

Birthrates of Low-Mass Binary Pulsars and Low-Mass X-Ray Binaries. *Shrinivas R. Kulkarni & Ramesh Narayan.* 335, 755, 181-A3 (1988)

Gravitational Lensing and Quasar-Galaxy Correlations. *Ramesh Narayan.* 339, L53, 66-B10 (1989)

Gravitationally Lensed Images in Abell 370. *Scott A. Grossman & Ramesh Narayan.* 344, 637, 142-D2 (1989)

Angular Momentum of Accreting White Dwarfs: Implications for Millisecond Pulsar Formation. *Ramesh Narayan & Robert Popham.* 346, L25, 173-C8 (1989)

Pulsar Populations and Their Evolution. *Ramesh Narayan & J. P. Ostriker.* 352, 222, 52-F7 (1990)

The Pulsar Content of Globular Clusters. *Shrinivas R. Kulkarni, Ramesh Narayan, & Roger W. Romani.* 356, 174, 101-C1 (1990)

NARITA, SHINJI. The Equilibria of Rotating Isothermal Clouds. *Masayoshi Kiguchi, Shinji Narita, Shoken M. Miyama, & Chushiro Hayashi.* 317, 830, 75-B5 (1987)

NARLIKAR, J. V. A Doppler Interpretation for Close Pairs and Compact Groups of Quasars. *D. Narasimha & J. V. Narlikar.* 338, 44, 33-E8 (1989)

Associations between Quasi-stellar Objects and Galaxies. *G. Burbidge, A. Hewitt, J. V. Narlikar, & P. Das Gupta.* 74, 675, 40-C2 (1990)

NASH, A. G. The Origin of Rigidly Rotating Magnetic Field Patterns on the Sun. *N. R. Sheeley, Jr., A. G. Nash, & Y.-M. Wang.* 319, 481, 98-D5 (1987)

The Quasi-rigid Rotation of Coronal Magnetic Fields. *Y.-M. Wang, N. R. Sheeley, Jr., A. G. Nash, & L. R. Shampine.* 327, 427, 51-F1 (1988)

Evolution of the Sun's Polar Fields during Sunspot Cycle 21: Poleward Surges and Long-Term Behavior. *Y.-M. Wang, A. G. Nash, & N. R. Sheeley, Jr.* 347, 529, 188-E3 (1989)

NASH, ANA G. The Abundance Ratio of Formaldehyde to Ammonia in Molecular Clouds Observed toward Radio Continuum Sources. *Ana G. Nash.* 72, 303, 6-B11 (1990)

NASH, J. K. Iron K-Shell Emission from NGC 1068. *David L. Band, Richard I. Klein, John I. Castor, & J. K. Nash.* 362, 90, 170-C1 (1990)

NASSIOPOULOS, G. E. Periodic Photospheric and Chromospheric Modulation in Alpha Orionis (Betelgeuse). *A. K. Dupree, S. L. Baliunas, E. F. Guinan, L. Hartmann, G. E. Nassiopoulos, & G. Sonneborn.* 317, L85, 78-D4 (1987)

The Interstellar Medium toward Supernova 1987A. *A. K. Dupree, R. P. Kirshner, G. E. Nassiopoulos, J. C. Raymond, & G. Sonneborn.* 320, 597, 116-B11 (1987)

NASSIOPOULOS, GEORGE E. Ultraviolet Observations of SN 1987A. *Robert P. Kirshner, George Sonneborn, D. Michael Crenshaw, & George E. Nassiopoulos.* 320, 602, 116-C2 (1987)

NATALE, V. A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)

Anisotropies of the 60 Micron *IRAS* Galaxy Sample at Angular Scales $\gamma > 2°$. *R. Fabbri & V. Natale.* 363, 3, 182-B4 (1990)

NATALI, G. A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone, A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini.* 360, L31, 156-B1 (1990)

NATH, B. A Survey of the Profiles of Narrow Emission Lines in Seyfert Galaxies. *A. S. Wilson & B. Nath.* 74, 731, 40-G7 (1990)

NATH, BIMAN B. On the Explosive Origin Hypothesis for Present-Day Cosmic Voids and Peculiar Velocities. *Biman B. Nath & David Eichler.* 337, 1, 17-A9 (1989)

Structure in Small Molecular Clouds: Pedestals and Clumping. *Loris Magnani, John M. Carpenter, Leo Blitz, Namir E. Kassim, & Biman B. Nath.* 73, 747, 28-D3 (1990)

The Optical Depth of the Universe at Radiation-dominated Epochs. *Biman B. Nath & Andrzej A. Zdziarski.* 362, 25, 169-D1 (1990)

NATHER, R. E. The Exotic Helium Variable PG 1346+082. *M. A. Wood, D. E. Winget, R. E. Nather, Frederic V. Hessman, James Liebert, Donald W. Kurtz, F. Wesemael, & G. Wegner.* 313, 757, 25-B1 (1987)

An Independent Method for Determining the Age of the Universe. *D. E. Winget, C. J. Hansen, James Liebert, H. M. Van Horn, G. Fontaine, R. E. Nather, S. O. Kepler, & D. Q. Lamb.* 315, L77, 49-B1 (1987)

Two Extreme Examples of Compact Pulsators: PG 1115+158 and PG 1351+489. *D. E. Winget, R. E. Nather, & J. Allen Hill.* 316, 305, 53-C11 (1987)

An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather, D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine.* 357, 204, 113-E7 (1990)

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

The Whole Earth Telescope: A New Astronomical Instrument. *R. E. Nather, D. E. Winget, J. C. Clemens, C. J. Hansen, & B. P. Hine.* 361, 309, 160-F11 (1990)

NATHER, R. EDWARD. The Eclipses of Cataclysmic Variables. I. HT Cassiopeiae. *E.-H. Zhang, Edward L. Robinson, & R. Edward Nather.* 305, 740, 77-A9 (1986)

NATTA, A. Neutral Winds from Cool Young Stars: A Solution to the Line Deficit Problem. *A. Natta, C. Giovanardi, F. Palla, & Neal J. Evans II.* 327, 817, 57-E8 (1988)

Ionization Structure and Emission of Winds from Low-Luminosity Pre–Main-Sequence Stars. *A. Natta, C. Giovanardi, & F. Palla.* 332, 921, 134-E2 (1988)

New Observations of Paα Lines in Two Quasi-stellar Objects. *Neal J. Evans II & A. Natta.* 339, 943, 63-D4 (1989)

Properties and Evolution of Dust Grains in Planetary Nebulae. *P. Lenzuni, A. Natta, & N. Panagia.* 345, 306, 153-A1 (1989)

Sodium Lines in T Tauri Stars: Diagnostics of Pre–Main-Sequence Winds. *A. Natta & C. Giovanardi.* 356, 646, 108-C3 (1990)

NATTA, ANTONELLA. High-Resolution, Far-Infrared Observations of NGC 2071. *Harold M. Butner, Neal J. Evans II, Paul M. Harvey, Lee G. Mundy, Antonella Natta, & Maria Sofia Randich.* 364, 164, 196-B1 (1990)

NAUTIYAL, C. M. Solar Flare Neon Composition and Solar Cosmic-Ray Exposure Ages Based on Lunar Mineral Separates. *C. M. Nautiyal, J. T. Padia, M. N. Rao, & T. R. Vankatesan.* 301, 465, 18-G14 (1986)

NAVARRO, JULIO F. Spherical Galaxy Collisions: Head-on Encounters. *Julio F. Navarro & Mirta B. Mosconi.* 336, 669, 10-G1 (1989)

NECKEL, TH. A New Cometary Nebula in Cygnus. *Th. Neckel & H. J. Staude.* 320, L145, 121-F1 (1987)

Temporal Changes of the IRS 5 Jet in L1551. *Th. Neckel & H. J. Staude.* 322, L27, 145-B13 (1987)

NEDOLUHA, GERALD E. Multiple, Narrow Lines in the Spectrum of an Astrophysical Maser in a Velocity Gradient. *Gerald E. Nedoluha & William D. Watson.* 335, L19, 177-B11 (1988)

Linearly Polarized Radiation from Astrophysical Masers Due to Magnetic Fields of Intermediate Strength. *Gerald E. Nedoluha & William D. Watson.* 354, 660, 84-E1 (1990)

Spectra of Circularly Polarized Radiation from Astrophysical OH Masers. *Gerald E. Nedoluha & William D. Watson.* 361, 653, 166-C1 (1990)

Modifications to the Relationship between the Magnetic Field and Weak Zeeman Features in the Spectra of Astrophysical Masers. *Gerald E. Nedoluha & William D. Watson.* 361, L53, 168-C11 (1990)

NEFF, S. G. What Is the Difference between Radio-loud and Radio-quiet Objects? *J. B. Hutchings, T. Janson, & S. G. Neff.* 342, 660, 110-F11 (1989)

NEIDIG, D. F. Solar Gradual Hard X-Ray Bursts and Associated Phenomena. *E. W. Cliver, B. R. Dennis, A. L. Kiplinger, S. R. Kane, D. F. Neidig, N. R. Sheeley, Jr., & M. J. Koomen.* 305, 920, 79-A12 (1986)

NEIL, M. *SMM* Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806–20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

NEILL, JAMES D. The Spatial Distribution and Population of Novae in M31. *Robin Ciardullo, Holland C. Ford, James D. Neill, George H. Jacoby, & Allen W. Shafter.* 318, 520, 86-E6 (1987)

Planetary Nebulae as Standard Candles. II. The Calibration in M31 and Its Companions. *Robin Ciardullo, George H. Jacoby, Holland C. Ford, & James D. Neill.* 339, 53, 50-F1 (1989)

The Hα Light Curves of Novae in M31. *Robin Ciardullo, Allen W. Shafter, Holland C. Ford, James D. Neill, Michael M. Shara, & A. B. Tomaney.* 356, 472, 106-B10 (1990)

NEL, H. I. A TeV Triple Peak from PSR 1509–58? *O. C. de Jager, B. C. Raubenheimer, A. R. North, H. I. Nel, & G. Van Urk.* 329, 831, 86-B4 (1988)

The Temporal Structure of Very High Energy Gamma Rays from Vela X-1. *B. C. Raubenheimer, A. R. North, O. C. de Jager, & H. I. Nel.* 336, 394, 6-B1 (1989)

Temporal Structure of Very High Energy Gamma Radiation from PSR 1509–58. *H. I. Nel, O. C. de Jager, B. C. Raubenheimer, A. R. North, & C. Brink.* 361, 181, 159-C1 (1990)

MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo,*

L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos. 364, L37, 205-D5 (1990)

NELAN, E. P. Ultraviolet and Visual Spectroscopy of DB White Dwarfs. *G. Wegner & E. P. Nelan.* 319, 916, 105-A5 (1987)

NELSON, ERIC R. Spectral Decomposition and Multiple Periodicities in the Photometric Light Curves of RS CVn Stars. *Eric R. Nelson & Michael Zeilik.* 349, 163, 16-A1 (1990)

NELSON, G. J. A Low-Energy Jet Emanating from the Galactic Nucleus? *F. Yusef-Zadeh, Mark Morris, O. B. Slee, & G. J. Nelson.* 300, L47, 13-C10 (1986)

Nonthermal Radio Emission from the Galactic Center Arc. *F. Yusef-Zadeh, Mark Morris, O. B. Slee, & G. J. Nelson.* 310, 689, 141-D12 (1986)

NELSON, H. Perturbation of Larmor Orbits by a Gravitational Wave. *P. Macedo & H. Nelson.* 362, 584, 178-A9 (1990)

NELSON, L. A. The Evolution of Ultrashort Period Binary Systems. *L. A. Nelson, S. A. Rappaport, & P. C. Joss.* 304, 231, 56-D8 (1986)

The Evolution of Very Low Mass Stars. *L. A. Nelson, S. A. Rappaport, & P. A. Joss.* 311, 226, 148-D13 (1986)

The Evolutionary Status of 4U 1820−30. *S. Rappaport, L. A. Nelson, C. P. Ma, & P. C. Joss.* 322, 842, 149-A12 (1987)

NELSON, LORNE A. Stellar Encounters in the Galactic Center: Formation of Massive Stars and Close Binaries. *Hyung Mok Lee & Lorne A. Nelson.* 334, 688, 164-A1 (1988)

Theoretical Models of Low-Mass Stars and Brown Dwarfs. I. The Lower Main Sequence. *Ben Dorman, Lorne A. Nelson, & W. Y. Chau.* 342, 1003, 114-F5 (1989)

NELSON, PAUL I. Statistical Methods for Astronomical Data with Upper Limits. II. Correlation and Regression. *Takashi Isobe, Eric D. Feigelson, & Paul I. Nelson.* 306, 490, 89-G3 (1986)

NELSON, ROBERT. Refractory Grain Processing in Circumstellar Shells: Diagnostic Infrared Signatures. *Joseph A. Nuth III, Bertram Donn, & Robert Nelson.* 310, L83, 145-B9 (1986)

Impulsiveness and Energetics in Solar Flares with and without Type II Radio Bursts: A Comparison of Hard X-Ray Characteristics for Over 2500 Solar Flares. *Douglas H. Pearson, Robert Nelson, Gabriel Kojoian, & James Seal.* 336, 1050, 15-E1 (1989)

NELSON, ROBERT W. Trompe l'Oeil "Binary" Pulsars. *Robert W. Nelson, Lee S. Finn, & Ira Wasserman.* 348, 226, 3-G1 (1990)

NEMEC, AMANDA F. L. Numerical Experiments on the Broadening of Emission Lines Formed in a Disk. *Anne B. Underhill & Amanda F. L. Nemec.* 345, 1008, 163-B1 (1989)

NEMEC, JAMES. The Age of the LMC Globular Cluster NGC 1783. *Jeremy Mould, Jerome Kristian, James Nemec, Marc Aaronson, & Joseph Jensen.* 339, 84, 51-A8 (1989)

NEMEC, JAMES M. Blue Straggler Stars in the Globular Cluster NGC 5466. *James M. Nemec & Hugh C. Harris.* 316, 172, 51-G7 (1987)

Blue Straggler Stars in the Globular Cluster NGC 5053. *James M. Nemec & Judith G. Cohen.* 336, 780, 12-A6 (1989)

NEMIROFF, ROBERT J. AGN Broad Emission Line Amplification from Gravitational Microlensing. *Robert J. Nemiroff.* 335, 593, 179-A10 (1988)

On the Probability of Detection of a Single Gravitational Lens. *Robert J. Nemiroff.* 341, 579, 92-D9 (1989)

The Probability of Arc Lensing by Clusters of Galaxies. *Robert J. Nemiroff & Avishai Dekel.* 344, 51, 133-E13 (1989)

Relative Bias Parameters from Angular Correlations of Optical and IRAS Galaxies. *Ofer Lahav, Robert J. Nemiroff, & Tsvi Piran.* 350, 119, 26-E1 (1990)

Gravitational Lens Limits on Cosmological Black Holes. *Robert J. Nemiroff & Vassilios G. Bistolas.* 358, 5, 122-B1 (1990)

NERNEY, STEVEN. Radiatively Driven Winds from Magnetic, Fast-rotating Stars: Wolf-Rayet Stars? *Steven Nerney & S. T. Suess.* 321, 355, 126-B3 (1987)

NESCI, ROBERTO. A Cooling Flow in a High-Redshift, X-Ray–selected Cluster of Galaxies. *Roberto Nesci, Isabella M. Gioia, Tommaso Maccacaro, Simon L. Morris, Giuseppe C. Perola, Rudolph E. Schild, & Anna Wolter.* 344, 104, 134-C11 (1989)

NETZER, H. High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. I. Markarian 279. *D. Maoz, H. Netzer, E. Leibowitz, N. Brosch, A. Laor, H. Mendelson, S. Beck, E. Almoznino, & T. Mazeh.* 351, 75, 39-A5 (1990)

High-Rate Spectroscopic Active Galactic Nucleus Monitoring at the Wise Observatory. II. NGC 5548. *H. Netzer, D. Maoz, A. Laor, H. Mendelson, N. Brosch, E. Leibowitz, E. Almoznino, S. Beck, & T. Mazeh.* 353, 108, 63-D7 (1990)

Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)

NETZER, HAGAI. Small Dense Broad-Line Regions in Active Nuclei. *M. J. Rees, Hagai Netzer, & G. J. Ferland.* 347, 640, 191-B11 (1989)

On the Emission-Line Response to Continuum Variations in the Seyfert Galaxy NGC 5548. *Hagai Netzer & Dan Maoz.* 365, L5, 212-A11 (1990)

NETZER, NATHAN. Mass Loss from Evolved Stars. VII. OH Maser Shell Radii and Mass-Loss Rates for OH/IR Stars. *Nathan Netzer & G. R. Knapp.* 323, 734, 162-F12 (1987)

Interaction of Dust and Radiation in Circumstellar Envelopes. I. The Expansion Velocity Gradient in the Envelope of VX Sagittarii. *Nathan Netzer.* 342, 1068, 115-D1 (1989)

NEUFELD, DAVID A. H_2O Line Emission from Shocked Gas. *David A. Neufeld & Gary J. Melnick.* 322, 266, 140-F12 (1987)

Fermi Acceleration of Lyman-Alpha Photons by Shocks. *David A. Neufeld & Christopher F. McKee.* 331, L87, 121-E3 (1988)

Fast Molecular Shocks. I. Re-formation of Molecules behind a Dissociative Shock. *David A. Neufeld & A. Dalgarno.* 340, 869, 79-C3 (1989)

Fast Molecular Shocks. II. Emission from Fast Dissociative Shocks. *David A. Neufeld & A. Dalgarno.* 344, 251, 136-B8 (1989)

The Transfer of Resonance-Line Radiation in Static Astrophysical Media. *David A. Neufeld.* 350, 216, 27-F7 (1990)

Interpretation of the Newly Discovered Submillimeter Water Maser. *David A. Neufeld & Gary J. Melnick.* 352, L9, 55-B6 (1990)

A New Submillimeter Water Maser Transition at 325 GHz. *Karl M. Menten, Gary J. Melnick, Thomas G. Phillips, & David A. Neufeld.* 363, L27, 193-E1 (1990)

NEUGEBAUER, G. IRAS 18333−2357: An Unusual Source in M22. *F. C. Gillett, G. Neugebauer, J. P. Emerson, & W. L. Rice.* 300, 722, 11-A10 (1986)

Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

The Luminosity Function and Space Density of the Most Luminous Galaxies in the *IRAS* Survey. *B. T. Soifer, D. B. Sanders, G. Neugebauer, G. E. Danielson, Carol J. Lonsdale, B. F. Madore, & S. E. Persson.* 303, L41, 53-C5 (1986)

Discovery of an Infrared-loud Quasar. *C. A. Beichman, B. T. Soifer, G. Helou, T. J. Chester, G. Neugebauer, F. C. Gillett, & F. J. Low.* 308, L1, 113-E11 (1986)

Quasars Measured by the *Infrared Astronomical Satellite*. *G. Neugebauer, G. K. Miley, B. T. Soifer, & P. E. Clegg.* 308, 815, 117-G7 (1986)

X-Ray Spectra of PG Quasars. I. The Continuum from X-Rays to the Infrared. *Martin Elvis, Richard F. Green, Jill Bechtold, Maarten Schmidt, G. Neugebauer, B. T. Soifer, K. Matthews, & G. Fabbiano.* 310, 291, 135-B13 (1986)

Far-Infrared Excesses from E/S0 Galaxies with Compact Radio Cores. *J. M. Wrobel, G. Neugebauer, & G. K. Miley.* 310, L11, 138-A14 (1986)

IRAS Observations of R Coronae Borealis—Detection and Study of a Fossil Shell. *F. C. Gillett, D. E. Backman, C. Beichman, & G. Neugebauer.* 310, 842, 143-B6 (1986)

Continuum Energy Distributions of Quasars in the Palomar-Green Survey. *G. Neugebauer, R. F. Green, K. Matthews, M. Schmidt, B. T. Soifer, & J. Bennett.* 63, 615, 10-A7 (1987)

The *IRAS* Bright Galaxy Sample. II. The Sample and Luminosity Function. *B. T. Soifer, D. B. Sanders, B. F. Madore, G. Neugebauer, G. E. Danielson, J. H. Elias, Carol J. Lonsdale, & W. L. Rice.* 320, 238, 110-F7 (1987)

Ultraluminous Infrared Galaxies and the Origin of Quasars. *D. B. Sanders, B. T. Soifer, J. H. Elias, B. F. Madore, K. Matthews, G. Neugebauer, & N. Z. Scoville.* 325, 74, 19-G6 (1988)

Warm Ultraluminous Galaxies in the *IRAS* Survey: The Transition from Galaxy to Quasar? *D. B. Sanders, B. T. Soifer, J. H. Elias, G. Neugebauer, & K. Matthews.* 328, L35, 74-D1 (1988)

PW Vulpeculae: A Dust-poor DQ Herculis? *R. D. Gehrz, T. E. Harrison, E. P. Ney, K. Matthews, G. Neugebauer, J. Elias, G. L. Grasdalen, & J. A. Hackwell.* 329, 894, 86-G6 (1988)

A Catalog of *IRAS* Observations of Large Optical Galaxies. *W. Rice, Carol J. Lonsdale, B. T. Soifer, G. Neugebauer, E. L. Koplan, Lawrence A. Lloyd, T. de Jong, & H. J. Habing.* 68, 91, 24-F1 (1988)

The Optical/Infrared Counterpart(s) of IRAS 18333–2357. *F. C. Gillett, G. H. Jacoby, R. R. Joyce, J. G. Cohen, G. Neugebauer, B. T. Soifer, T. Nakajima, & K. Matthews.* 338, 862, 44-F1 (1989)

Continuum Energy Distributions of Quasars: Shapes and Origins. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 347, 29, 182-D7 (1989)

The Near-Infrared Morphology of Ultraluminous Infrared Galaxies. *David P. Carico, James R. Graham, K. Matthews, T. D. Wilson, B. T. Soifer, G. Neugebauer, & D. B. Sanders.* 349, L39, 24-B1 (1990)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, F. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

The Double Nucleus of Arp 220 Unveiled. *James R. Graham, D. P. Carico, K. Matthews, G. Neugebauer, B. T. Soifer, & T. D. Wilson.* 354, L5, 80-A12 (1990)

The Infrared Excess of G29–38: A Brown Dwarf or Dust? *James R. Graham, K. Matthews, G. Neugebauer, & B. T. Soifer.* 357, 216, 113-F10 (1990)

Continuum Energy Distributions of Quasars: Shapes and Origins: Erratum. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 357, 291, 114-F6 (1990) (Orig. paper in 347, 29, 182-D7 (1989))

NEUGEBAUER, GERRY. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

The Long-Period Variable Stars of M33. *Jeremy Mould, James R. Graham, Keith Matthews, Gerry Neugebauer, & Jonathan Elias.* 349, 503, 21-E5 (1990)

NEUPERT, WERNER M. Transient Coronal Extreme Ultraviolet Emission before and during the Impulsive Phase of a Solar Flare. *Werner M. Neupert.* 344, 504, 139-C5 (1989)

NEW, R. The 160 Minute Solar Oscillation: An Artifact? *Y. P. Elsworth, S. M. Jefferies, C. P. McLeod, R. New, P. L. Pallé, H. B. van der Raay, C. Régulo, & T. Roca Cortés.* 338, 557, 39-F7 (1989)

NEWBERRY, MICHAEL V. Spectra of Galaxies in Clusters. I. The Butcher-Oemler Effect. *Michael V. Newberry, Robert P. Kirshner, & Todd A. Boroson.* 335, 629, 179-D4 (1988)

Spectra of Galaxies in Clusters. II. Models for the Spectra of Postburst and Stripped Galaxies. *Michael V. Newberry, Todd A. Boroson, & Robert P. Kirshner.* 350, 585, 33-D11 (1990)

NEWBURN, R. L. The Infrared Spectrum of Comet Bradfield (1987s) and the Silicate Emission Feature. *M. S. Hanner, R. L. Newburn, R. D. Gehrz, T. Harrison, E. P. Ney, & T. L. Hayward.* 348, 312, 4-G9 (1990)

NEWCOMER, F. M. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

NEWMAN, WILLIAM I. Double Galaxy Redshifts and the Statistics of Small Numbers. *William I. Newman, Martha P. Haynes, & Yervant Terzian.* 344, 111, 134-D7 (1989)

Hierarchical Fragmentation Model for the Evolution of Self-gravitating Clouds. *William I. Newman & Ira Wasserman.* 354, 411, 81-E1 (1990)

NEWPORT, B. J. Abundances of Ultraheavy Elements in the Cosmic Radiation: Results from *HEAO 3. W. R. Binns, T. L. Garrard, P. S. Gibner, M. H. Israel, M. P. Kertzman, J. Klarmann, B. J. Newport, E. C. Stone, & C. J. Waddington.* 346, 997, 179-E1 (1989)

NEWPORT, BRIAN J. A 153 Day Periodicity in the Occurrence of Solar Flares Producing Energetic Interplanetary Electrons. *Wolfgang Dröge, Kenneth Gibbs, John M. Grunsfeld, Peter Meyer, Brian J. Newport, Paul Evenson, & Dan Moses.* 73, 279, 21-E7 (1990)

NEWSOM, G. H. A Dynamical Model for SS 433. *George W. Collins II & G. H. Newsom.* 308, 144, 109-F1 (1986)

NEWSOM, GERALD H. Transient and Secular Variations of the Moving-Line Spectra from SS 433. *George W. Collins II & Gerald H. Newsom.* 331, 486, 111-F10 (1988)

NEWTON, GOEFFREY. A Study of the Stellar Population in the Lynds 1641 Dark Cloud. I. The *IRAS* Catalog Sources. *Karen M. Strom, Goeffrey Newton, Stephen E. Strom, Robert L. Seaman, Luis Carrasco, Irene Cruz-Gonzalez, Alfonso Serrano, & Gary L. Grasdalen.* 71, 183, 37-C2 (1989)

NEY, E. P. PW Vulpeculae: A Dust-poor DQ Herculis? *R. D. Gehrz, T. E. Harrison, E. P. Ney, K. Matthews, G. Neugebauer, J. Elias, G. L. Grasdalen, & J. A. Hackwell.* 329, 894, 86-G6 (1988)

The Infrared Spectrum of Comet Bradfield (1987s) and the Silicate Emission Feature. *M. S. Hanner, R. L. Newburn, R. D. Gehrz, T. Harrison, E. P. Ney, & T. L. Hayward.* 348, 312, 4-G9 (1990)

NG, C. K. Impulsive Acceleration and Scatter-free Transport of ~ 1 MeV per Nucleon Ions in ^{3}He-rich Solar Particle Events. *G. M. Mason, C. K. Ng, B. Klecker, & G. Green.* 339, 529, 56-D5 (1989)

NGUYEN, LINH. Radio Emission from Supernovae. I. One to Twelve Year Old Supernovae. *Kurt W. Weiler, Nino Panagia, Richard A. Sramek, J. M. van der Hulst, Morton S. Roberts, & Linh Nguyen.* 336, 421, 6-D2 (1989)

NGUYEN-Q-RIEU. Molecular Envelope of the Planetary Nebula NGC 7027. *S. Deguchi, H. Izumiura, N. Kaifu, X. Mao, Nguyen-Q-Rieu, & N. Ukita.* 351, 522, 46-E9 (1990)

Aperture Synthesis Observations of Molecules in CRL 2688. *Nguyen-Q-Rieu & John H. Bieging.* 359, 131, 135-F1 (1990)

H_2O Emission from Evolved Stars at the Far-Infrared and Submillimeter Wavelengths. *Shuji Deguchi & Nguyen-Q-Rieu.* 360, L27, 149-D11 (1990)

NGUYEN-QUANG-RIEU. HCN Emission toward CRL 2688: Evidence for Angular Momentum Transport in a Circumstellar Envelope. *John H. Bieging & Nguyen-Quang-Rieu.* 324, 516, 6-G7 (1988)

Evidence for Ion-Molecule Chemistry in the Envelope of IRC +10216. *John H. Bieging & Nguyen-Quang-Rieu.* 329, L107, 89-F6 (1988)

A Sensitive Line Search in Circumstellar Envelopes. *Nguyen-Quang-Rieu, S. Deguchi, H. Izumiura, N. Kaifu, M. Ohishi, H. Suzuki, & Nobuharu Ukita.* 330, 374, 94-D1 (1988)

Aperture Synthesis Observations of Shocked SO_2 in the Bipolar Nebula OH 231.8+4.2. *James M. Jackson & Nguyen-Quang-Rieu.* 335, L83, 185-E6 (1988)

The Distribution of Silicon Sulfide in the Envelope of IRC +10216. *J. H. Bieging & Nguyen-Quang-Rieu.* 343, L25, 125-D5 (1989)

NICE, D. J. The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

Observations of the Eclipsing Binary Pulsar in Terzan 5. *D. J. Nice, S. E. Thorsett, J. H. Taylor, & A. S. Fruchter.* 361, L61, 168-D7 (1990)

NICHOLS-BOHLIN, JOY. High-Velocity Interstellar Gas in the Lines of Sight to the Wolf-Rayet Stars HD 97152 and HD 96548. *Joy Nichols-Bohlin & Robert A. Fesen.* 353, 281, 65-F1 (1990)

NICHOLSON, PHILIP D. Tides in Rotating Fluids. *Peter Goldreich & Philip D. Nicholson.* 342, 1075, 115-D10 (1989)

Tidal Friction in Early-Type Stars. *Peter Goldreich & Philip D. Nicholson.* 342, 1079, 115-E1 (1989)

NICOLL, J. F. Comparative Statistical Study of the Chronometric and Friedman Cosmologies Based on the Palomar Bright Quasar and Other Complete Quasar Surveys. *I. E. Segal & J. F. Nicoll.* 300, 224, 3-D11 (1986)

NICOLSON, G. D. Newly Discovered Methanol Masers Associated with IRAS Sources. *A. J. Kemball, M. J. Gaylard, & G. D. Nicolson.* 331, L37, 114-D1 (1988)

NIEL, M. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

A Study of $E > 4$ MeV Gamma Radiation from the Galactic Disk in the Region $-20° < l < 20°$. *J. M. Lavigne, P. Mandrou, M. Niel, B. Agrinier, E. Bonfand, & B. Parlier.* 308, 370, 112-A14 (1986)

Hard X-Ray Pulse Profile and Period Evaluation of A0535+26 and GX 1+4 as Observed by the Franco-Soviet Signe Satellite Experiments. *A. Refloc'h, G. Chambon, M. Niel, G. Vedrenne, & Ch. Yu. Rakhamimov.* 310, 773, 142-D3 (1986)

Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Short Solar Events with Evidence of Repetitive Structures. *Upendra D. Desai, Chryssa Kouveliotou, C. Barat, K. Hurley, M. Niel, R. Talon, G. Vedrenne, I. V. Estulin, & V. Ch. Dolidze.* 319, 567, 99-E1 (1987)

Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

Observation of the Vela Pulsar, PSR 0833−45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)

NIEL, N. Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

NIEMELA, VIRPI S. Studies of Binary Stars in the Magellanic Clouds. I. NS 105−67: A Massive Double-Lined O-Type Binary in the Large Magellanic Cloud. *Virpi S. Niemela & Nidia I. Morrell.* 310, 715, 141-G1 (1986)

The Wolf-Rayet Population in 30 Doradus and Its Surroundings. *Anthony F. J. Moffat, Virpi S. Niemela, M. M. Phillips, You-Hua Chu, & Wilhelm Seggewiss.* 312, 612, 9-E7 (1987)

Wolf-Rayet Stars in the Magellanic Clouds. VI. Spectroscopic Orbits of WC Binaries and Implications for W-R Evolution. *Anthony F. J. Moffat, Virpi S. Niemela, & Hugo G. Marraco.* 348, 232, 3-G8 (1990)

Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)

NIETO, J.-L. High-Resolution Imaging of the Double QSO 2345+007: Evidence for Subcomponents. *J.-L. Nieto, S. Roques, A. Llebaria, Ch. Vanderriest, G. Lelièvre, S. di Serego Alighieri, F. D. Macchetto, & M. A. C. Perryman.* 325, 644, 27-E8 (1988)

Near-Ultraviolet Emission from 3C 66B and Its Jet. *D. Fraix-Burnet, J.-L. Nieto, G. Lelièvre, F. D. Macchetto, M. A. C. Perryman, & S. di Serego Alighieri.* 336, 121, 2-E1 (1989)

NILSSON, A. E. Ultraviolet Doubly Excited Fe II Lines in the Laboratory and in the A-Type Star 21 Pegasi. *J. Adam, B. Baschek, S. Johansson, A. E. Nilsson, & T. Brage.* 312, 337, 4-E6 (1987)

NINKOV, Z. The Primary Orbit and Absorption Lines of HDE 226868 (Cygnus X-1). *Z. Ninkov, G. A. H. Walker, & S. Yang.* 321, 425, 126-G4 (1987)

The He II λ4686 and Hα Emission Lines of Cygnus X-1. *Z. Ninkov, G. A. H. Walker, & S. Yang.* 321, 438, 127-A3 (1987)

NISENSON, P. On the Alpha Orionis Triple System. *M. Karovska, P. Nisenson, & R. Noyes.* 308, 260, 110-G11 (1986)

Detection of a Very Bright Source Close to the LMC Supernova SN 1987A. *P. Nisenson, C. Papaliolios, M. Karovska, & R. Noyes.* 320, L15, 114-B4 (1987)

Detection of a Very Bright Source Close to the LMC Supernova SN 1987A: Erratum. *P. Nisenson, C. Papaliolios, M. Karovska, & R. Noyes.* 324, L35, 9-C8 (1988) (Orig. paper in 320, L15, 114-B4 (1987))

Measurements of the Diameter of the Large Magellanic Cloud Supernova SN 1987A. *M. Karovska, L. Koechlin, P. Nisenson, C. Papaliolios, & C. Standley.* 340, 435, 72-E12 (1989)

NISHIDA, M. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

NISHIDA, MINORU. Two Micron Spectroscopy of IRAS Galaxies. *Kimiaki Kawara, Minoru Nishida, & Brooke Gregory.* 321, L35, 129-D12 (1987)

[Fe II] 1.644 Micron Emission Line in Seyfert and Starburst Galaxies. *Kimiaka Kawara, Minoru Nishida, & Yoshiaki Taniguchi.* 328, L41, 74-D6 (1988)

Brackett α and γ Observations of Starburst and Seyfert Galaxies. *Kimiaki Kawara, Minoru Nishida, & M. M. Phillips.* 337, 230, 20-C1 (1989)

H_2 2.122 Micron Emission in NGC 3783 with a Bare Type 1 Seyfert Nucleus. *Kimiaki Kawara, Minoru Nishida, & Brooke Gregory.* 342, L55, 117-B10 (1989)

A Linear Correlation between H_2 $v = 1$–0 $S(1)$ and [O I] 6300 Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Yoshiaki Taniguchi, Kimiaki Kawara, & Minoru Nishida.* 346, L73, 181-C10 (1989)

H_2 Emission from Type 1 Seyferts and Quasars: Molecular Tori around Bare Nuclei. *Kimiaki Kawara, Minoru Nishida, & Brooke Gregory.* 352, 433, 56-E1 (1990)

A Relation between H_2 $v = 1$–0 $S(1)$ and 3.28 Micron Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Kimiaki Kawara, Yoshiaki Taniguchi, & Minoru Nishida.* 356, L39, 110-B1 (1990)

Excitation Mechanism of [Fe II] 1.644 Micron Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Minoru Nishida, Yoshiaki Taniguchi, & Kimiaki Kawara.* 360, 55, 145-F8 (1990)

NISHIDA, MITSUGU T. Collisionless Boltzmann Simulation of Stellar Disks Having a Small Bulge. *Mitsugu T. Nishida.* 302, 611, 37-C10 (1986)

A Seyfert Nucleus of a New Ring Galaxy in Sextans. *Ken-ichi Wakamatsu & Mitsugu T. Nishida.* 315, L23, 45-B12 (1987)

Dual Emission-Line Clouds in the Nuclei of the Interacting Pair Arp 90. *Ken-ichi Wakamatsu & Mitsugu T. Nishida.* 325, 596, 27-B1 (1988)

Dual Emission-Line Clouds in the Nuclei of the Interacting Pair Arp 90: Addendum. *Ken-ichi Wakamatsu & Mitsugu T. Nishida.* 330, 518, 96-A12 (1988) (Orig. paper in 325, 596, 27-B1 (1988))

NISHIJIMA, K. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

NISHIKAWA, JUN. Estimation of Total Irradiance Variations with the CCD Solar Surface Photometer. *Jun Nishikawa.* 359, 235, 137-A5 (1990)

A New System of Precise Full-Disk Solar Surface Photometry. *Jun Nishikawa.* 74, 315, 34-E9 (1990)

NISHIMURA, J. Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

NISHIMURA, JUN. Gamma Rays, X-Rays, and Optical Light from the Cobalt and the Neutron Star in SN 1987A. *Shiomi Kumagai, Toshikazu Shigeyama, Ken'ichi Nomoto, Masayuki Itoh, Jun Nishimura, & Sachiko Tsuruta.* 345, 412, 154-C5 (1989)

NISHIMURA, T. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

NISHIMURA, TETSUO. A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)

NISINI, B. The Large-Scale Anisotropies of the Extragalactic Infrared Background. *R. Fabbri, P. Andreani, F. Melchiorri, & B. Nisini.* 315, 12, 40-B4 (1987)

NITTA, NARIAKI. The Spatial, Spectral, and Temporal Character of the Hard X-Ray Flare of 1982 February 3. *Nariaki Nitta, Alan L. Kiplinger, & Keizo Kai.* 337, 1003, 31-C2 (1989)

X-Ray Observations of Two Short but Intense Solar Flares. *Nariaki Nitta, Brian R. Dennis, & Alan L. Kiplinger.* 353, 313, 66-B5 (1990)

NITTA, SHINYA. Magnetohydrodynamic Flows in Kerr Geometry: Energy Extraction from Black Holes. *Masaaki Takahashi, Shinya Nitta, Yoshinori Tatematsu, & Akira Tomimatsu.* 363, 206, 184-F4 (1990)

NOBILI, L. On Hydrodynamics of Radiatively Driven Winds. *R. Turolla, L. Nobili, & M. Calvani.* 303, 573, 48-F11 (1986)

NOBILI, LUCIANO. Radiatively Driven Winds in Wolf-Rayet Stars: A Unified Core-Atmosphere Model. *Roberto Turolla, Luciano Nobili, & Massimo Calvani.* 324, 899, 13-D1 (1988)

Henyey Method Revisited: An Application to Problems Involving Critical Points. *Luciano Nobili & Roberto Turolla.* 333, 248, 140-G2 (1988)

On the Role of Viscosity in Spherically Symmetric Transonic Flows. *Roberto Turolla & Luciano Nobili.* 342, 982, 114-D7 (1989)

A Note on the Validity of the Diffusion Approximation in Fast-moving Media. *Luciano Nobili & Roberto Turolla.* 352, L53, 61-D7 (1990)

NOCERA, L. Viscous Normal Modes on Coronal Inhomogeneities and Their Role as a Heating Mechanism. *R. S. Steinolfson, E. R. Priest, S. Poedts, L. Nocera, & M. Goosens.* 304, 526, 59-F3 (1986)

NOCI, G. The Structure of the Static Corona and Transition Region. *S. K. Antiochos & G. Noci.* 301, 440, 18-F1 (1986)

Mass Flows and the Ionization State of Coronal Loops. *G. Noci, D. Spadaro, R. A. Zappala, & S. K. Antiochos.* 338, 1131, 47-F1 (1989)

Mass Flows and the Ionization States of Coronal Loops: Erratum. *G. Noci, D. Spadaro, R. A. Zappala, & S. K. Antiochos.* 349, 678, 23-F5 (1990) (Orig. paper in 338, 1131, 47-F1 (1989))

The Effect of Nonequilibrium Ionization on Ultraviolet Line Shifts in the Solar Transition Region. *D. Spadaro, G. Noci, R. A. Zappalà, & S. K. Antiochos.* 355, 342, 91-B5 (1990)

The Effects of Nonequilibrium Ionization on the Radiative Losses of the Solar Corona. *D. Spadaro, R. A. Zappalà, S. K. Antiochos, G. Lanzafame, & G. Noci.* 362, 370, 173-F9 (1990)

NOCI, GIANCARLO. Solar Wind Diagnostics from Doppler-enhanced Scattering. *Giancarlo Noci, John L. Kohl, & George L. Withbroe.* 315, 706, 48-D1 (1987)

NOGUCHI, MASAFUMI. Morphological Type Correlation between Nearest Neighbor Pairs of Galaxies. *Tomohiko Yamagata, Masafumi Noguchi, & Masanori Iye.* 338, 707, 42-E11 (1989)

NOH, HYE-RIM. History of the Milky Way Star Formation Rate from the White Dwarf Luminosity Function. *Hye-Rim Noh & John Scalo.* 352, 605, 58-E3 (1990)

NOLL, K. S. Unusual Features of the 1–4 Micron Spectrum of HR 4049. *T. R. Geballe, K. S. Noll, D. C. B. Whittet, & L. B. F. M. Waters.* 340, L29, 75-E9 (1989)

NOLL, KEITH S. Detection of Carbon Monoxide in Saturn. *Keith S. Noll, R. F. Knacke, T. R. Geballe, & A. T. Tokunaga.* 309, L91, 131-F3 (1986)

The Origin and Vertical Distribution of Carbon Monoxide in Jupiter. *Keith S. Noll, R. F. Knacke, T. R. Geballe, & A. T. Tokunaga.* 324, 1210, 17-A1 (1988)

The Ice Band in IRAS 09371+1212. *T. R. Geballe, Y. H. Kim, R. F. Knacke, & Keith S. Noll.* 326, L65, 46-C5 (1988)

Evidence for Interstellar H_2O in the Orion Molecular Cloud. *R. F. Knacke, H. P. Larson, & Keith S. Noll.* 335, L27, 177-C6 (1988)

Arsine in Saturn and Jupiter. *Keith S. Noll, T. R. Geballe, & R. F. Knacke.* 338, L71, 49-D9 (1989)

NOLT, I. G. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)

Laboratory Measurement of the Rotational Spectrum of the OH Radical with Tunable Far-Infrared Radiation. *J. M. Brown, L. R. Zink, D. A. Jennings, K. M. Evenson, A. Hinz, & I. G. Nolt.* 307, 410, 99-E6 (1986)

Frequency Measurement of the $J = 1 \leftarrow 0$ Rotational Transition of HD. *K. M. Evenson, D. A. Jennings, J. M. Brown, L. R. Zink, K. R. Leopold, M. D. Vanek, & I. G. Nolt.* 330, L135, 105-B5 (1988)

NOLTHENIUS, RICHARD. The Mass and Halo Dispersion Profile of M32. *Richard Nolthenius & Holland Ford.* 305, 600, 75-D8 (1986)

Dynamics of the Outer Disk and Halo of M31. *Richard Nolthenius & Holland C. Ford.* 317, 62, 64-E13 (1987)

NOMOTO, K. Collapsing White Dwarfs. *E. Baron, J. Cooperstein, S. Kahana, & K. Nomoto.* 320, 304, 111-D5 (1987)

NOMOTO, KEN'ICHI. Confronting X-Ray Observations of Young Supernova Remnants with Neutron Star Cooling Models. *Ken'ichi Nomoto & Sachiko Tsuruta.* 305, L19, 74-B7 (1986)

X-Ray Spectra of Bursting Neutron Stars and the Color Temperature versus Luminosity Diagram. *Toshikazu Ebisuzaki & Ken'ichi Nomoto.* 305, L67, 80-D4 (1986)

The $^{14}N(e^-,\nu)^{14}C(\alpha,\gamma)^{18}O$ Reaction and Helium Flashes in Accreting Helium White Dwarfs. *Masa-aki Hashimoto, Ken'ichi Nomoto, Kenzo Arai, & Keisuke Kaminisi.* 307, 687, 104-D9 (1986)

Fate of Merging Double White Dwarfs. *Izumi Hachisu, Yoshiharu Eriguchi, & Ken'ichi Nomoto.* 308, 161, 109-G5 (1986)
Fate of Merging Double White Dwarfs. II. Numerical Method. *Izumi Hachisu, Yoshiharu Eriguchi, & Ken'ichi Nomoto.* 311, 214, 148-C14 (1986)
Cooling of Neutron Stars: Effects of the Finite Time Scale of Thermal Conduction. *Ken'ichi Nomoto & Sachiko Tsuruta.* 312, 711, 10-F4 (1987)
Off-Center Ignition of Nuclear Burning in Merging White Dwarfs. *Yasushi Kawai, Hideyuki Saio, & Ken'ichi Nomoto.* 315, 229, 42-D12 (1987)
On Interacting Helium Star–White Dwarf Pairs as Supernova Precursors. *Icko Iben, Jr., Ken'ichi Nomoto, Amedeo Tornambè, & Alexander V. Tutukov.* 317, 717, 73-G11 (1987)
On the Collapse of 8–10 $M_\odot$ Stars Due to Electron Capture. *Shigeki Miyaji & Ken'ichi Nomoto.* 318, 307, 82-C2 (1987)
Evolution of 8–10 $M_\odot$ Stars toward Electron Capture Supernovae. II. Collapse of an O + Ne + Mg Core. *Ken'ichi Nomoto.* 322, 206, 140-B8 (1987)
Steady State Models of White Dwarfs Accreting Helium or Carbon/Oxygen–rich Matter. *Yasushi Kawai, Hideyuki Saio, & Ken'ichi Nomoto.* 328, 207, 64-C2 (1988)
Why Did the Progenitor of SN 1987A Undergo the Blue-Red-Blue Evolution? *Hideyuki Saio, Mariko Kato, & Ken'ichi Nomoto.* 331, 388, 110-E5 (1988)
X-Ray Emission from the Remnant of a Carbon Deflagration Supernova: SN 1572 (Tycho). *Hiroshi Itoh, Kuniaki Masai, & Ken'ichi Nomoto.* 334, 279, 157-D7 (1988)
Formation of Dust Grains in the Ejecta of SN 1987A. *Takashi Kozasa, Hiroichi Hasegawa, & Ken'ichi Nomoto.* 344, 325, 137-A13 (1989)
Rayleigh-Taylor Instability and Mixing in SN 1987A. *Toshikazu Ebisuzaki, Toshikazu Shigeyama, & Ken'ichi Nomoto.* 344, L65, 148-C5 (1989)
Gamma Rays, X-Rays, and Optical Light from the Cobalt and the Neutron Star in SN 1987A. *Shiomi Kumagai, Toshikazu Shigeyama, Ken'ichi Nomoto, Masayuki Itoh, Jun Nishimura, & Sachiko Tsuruta.* 345, 412, 154-C5 (1989)
Thermal Radiation from Dust Grains Formed in the Ejecta of SN 1987A. *Takashi Kozasa, Hiroichi Hasegawa, & Ken'ichi Nomoto.* 346, L81, 181-D5 (1989)
Explosive Nucleosynthesis in SN 1987A. II. Composition, Radioactivities, and the Neutron Star Mass. *Friedrich-Karl Thielemann, Masa-aki Hashimoto, & Ken'ichi Nomoto.* 349, 222, 16-F1 (1990)
Nonlinear Growth of Rayleigh-Taylor Instabilities and Mixing in SN 1987A. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 358, L57, 133-D6 (1990)
Theoretical Light Curve of SN 1987A and Mixing of Hydrogen and Nickel in the Ejecta. *Toshikazu Shigeyama & Ken'ichi Nomoto.* 360, 242, 148-A9 (1990)
Low-Mass Helium Star Models for Type Ib Supernovae: Light Curves, Mixing, and Nucleosynthesis. *Toshikazu Shigeyama, Ken'ichi Nomoto, Takuji Tsujimoto, & Masa-aki Hashimoto.* 361, L23, 161-F1 (1990)

NOOK, M. A. R Coronae Borealis Dust Ejections: A Preferred Plane? *S. A. Stanford, G. C. Clayton, M. R. Meade, K. H. Nordsieck, B. A. Whitney, M. A. Murison, M. A. Nook, & C. M. Anderson.* 325, L9, 25-A14 (1988)
A Rotating, Expanding Disk in the Wolf-Rayet Star EZ Canis Majoris? *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. A. Nook, A. M. Magalhães, M. Taylor, K. S. Bjorkman, & C. M. Anderson.* 365, L19, 212-C1 (1990)

NOOK, MARK A. The Detection of an IR Excess toward the Globular Cluster RV Tauri Variable M28 V17. *Mark A. Nook & Jason A. Cardelli.* 346, L29, 173-D1 (1989)

NOONAN, THOMAS W. Remarks on the Necessity and Uniqueness of the Gravitational Stress-Energy Pseudotensor. *Thomas W. Noonan.* 313, 37, 15-D1 (1987)
Huygens's Principle for the Electromagnetic Vector Potential in Riemannian Spacetimes. *Thomas W. Noonan.* 341, 786, 95-A6 (1989)
Huygens's Principle for the Wave Equation for Second-Rank Tensor Fields. *Thomas W. Noonan.* 343, 849, 129-G1 (1989)

NORDLUND, Å. Topology of Convection beneath the Solar Surface. *R. F. Stein & Å. Nordlund.* 342, L95, 117-F1 (1989)

NORDSIECK, K. H. Polarization of Light Scattered from the Winds of Early-Type Stars. *J. P. Cassinelli, K. H. Nordsieck, & M. A. Murison.* 317, 290, 67-B1 (1987)
R Coronae Borealis Dust Ejections: A Preferred Plane? *S. A. Stanford, G. C. Clayton, M. R. Meade, K. H. Nordsieck, B. A. Whitney, M. A. Murison, M. A. Nook, & C. M. Anderson.* 325, L9, 25-A14 (1988)
A Rotating, Expanding Disk in the Wolf-Rayet Star EZ Canis Majoris? *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. A. Nook, A. M. Magalhães, M. Taylor, K. S. Bjorkman, & C. M. Anderson.* 365, L19, 212-C1 (1990)

NORDSTRÖM, BIRGITTA. On "the" Spectral Type–Mass Relation for Main-Sequence Stars. *Birgitta Nordström.* 341, 934, 96-F10 (1989)
New Strong Evidence for the Importance of Convective Overshooting in Intermediate-Mass Stars. *Johannes Anderson, Birgitta Nordström, & Jens Viggo Clausen.* 363, L33, 193-E7 (1990)

NORDTVEDT, K. A Many-Body Lagrangian for Celestial Body Dynamics to Second Post-Newtonian Linear Field Order. *M. Benacquista & K. Nordtvedt.* 328, 588, 69-E6 (1988)

NORDTVEDT, K., JR. A Possible Semisecular Variation in Orbital Period of Binary Pulsar System PSR 1913+16 and Lorentz Invariance of Gravity. *K. Nordtvedt, Jr.* 322, 288, 141-A6 (1987)

NORDTVEDT, KEN. Probing Gravity to the Second Post-Newtonian Order and to One Part in 10^7 Using the Spin Axis of the Sun. *Ken Nordtvedt.* 320, 871, 119-C12 (1987)

NOREAU, LOUIS. The Optical Jet of the Galaxy NGC 4258: Interaction with the Interstellar Medium. *Pierre Martin, Jean-René Roy, Louis Noreau, & K. Y. Lo.* 345, 707, 159-E1 (1989)

NORMAN, C. A. Formation of Elliptical Galaxies and Massive Halos. *R. G. Carlberg, George Lake, & C. A. Norman.* 300, L1, 7-A4 (1986)

NORMAN, COLIN. On Pumping Astronomical Masers. *Nikolaos D. Kylafis & Colin Norman.* 300, L73, 13-E11 (1986)
On Pumping the Strong Water Maser Sources. *Nikolaos D. Kylafis & Colin Norman.* 323, 346, 156-G1 (1987)
A Two-Component Dark Matter Universe. II. Linear Fluctuation Theory. *Satoru Ikeuchi, Colin Norman, & Yin Zhan.* 324, 35, 1-C13 (1988)
A Magnetic Loop Model for Structure and Activity in the Galactic Center. *Jean Heyvaerts, Colin Norman, & Ralph E. Pudritz.* 330, 718, 100-D1 (1988)
The Evolution of Starburst Galaxies to Active Galactic Nuclei. *Colin Norman & Nick Scoville.* 332, 124, 124-D8 (1988)
Broad Emission Lines From the Mass-Loss Envelopes of Giant Stars in Active Galactic Nuclei. *Nick Scoville & Colin Norman.* 332, 163, 124-G7 (1988)
The Collimation of Magnetized Winds. *Jean Heyvaerts & Colin Norman.* 347, 1055, 196-F1 (1989)
Chaotic Orbits in Barred Galaxies with Central Mass Concentrations. *Hashima Hasan & Colin Norman.* 361, 69, 157-G9 (1990)
Dissipation in Barred Galaxies: The Growth of Bulges and Central Mass Concentrations. *Daniel Pfenniger & Colin Norman.* 363, 391, 189-A1 (1990)

NORMAN, COLIN A. Bipolar Hydromagnetic Winds from Disks around Protostellar Objects. *Ralph E. Pudritz & Colin A. Norman.* 301, 571, 22-A1 (1986)
The Formation and Evolution of Dwarf Galaxies and Lyman-Alpha Clouds: Two-Component Dark Matter. *Satoru Ikeuchi & Colin A. Norman.* 312, 485, 8-C1 (1987)
Infrared Supernovae in Starbursts. *Dave Van Buren & Colin A. Norman.* 336, L67, 16-F10 (1989)
The Disk-Halo Interaction: Superbubbles and the Structure of the Interstellar Medium. *Colin A. Norman & Satoru Ikeuchi.* 345, 372, 153-F12 (1989)
Collisional Pumping of OH Masers in the $^2\Pi_{1/2}$ Ladder. *Nikolaos D. Kylafis & Colin A. Norman.* 350, 209, 27-E12 (1990)

NORMAN, MICHAEL L. Numerical Simulations of a Magnetically Confined Jet. *David A. Clarke, Michael L. Norman, & Jack O. Burns.* 311, L63, 160-D2 (1986)

Spatial Stability of the Slab Jet. I. Linearized Stability Analysis. *Philip E. Hardee & Michael L. Norman.* 334, 70, 154-G4 (1988)

Spatial Stability of the Slab Jet. II. Numerical Simulations. *Michael L. Norman & Philip E. Hardee.* 334, 80, 155-A9 (1988)

Superbubble Blowout Dynamics. *Mordecai-Mark Mac Low, Richard McCray, & Michael L. Norman.* 337, 141, 19-A1 (1989)

Electrodynamic Formation of Astrophysical Jets: Simulations. *Galen Gisler, Richard V. E. Lovelace, & Michael L. Norman.* 342, 135, 102-E14 (1989)

The Role of Oblique Reflection Shocks in Astrophysical Jets. *Philip E. Hardee & Michael L. Norman.* 342, 680, 111-A4 (1989)

Numerical Observations of a Simulated Jet with a Passive Helical Magnetic Field. *David A. Clarke, Michael L. Norman, & Jack O. Burns.* 342, 700, 111-B10 (1989)

Low-Temperature Transonic Cooling Flows in Galaxy Clusters. *Martin E. Sulkanen, Jack O. Burns, & Michael L. Norman.* 344, 604, 142-A8 (1989)

Expanding Hydrodynamical Jets Crossing a Galactic Halo/Intergalactic Medium Interface. *Paul J. Wiita, Alexander Rosen, & Michael L. Norman.* 350, 545, 33-A7 (1990)

Asymmetric Morphology of the Propagating Jet. *Philip E. Hardee & Michael L. Norman.* 365, 134, 207-F5 (1990)

NORRIS, J. P. Spectral Evolution of Pulse Structures in Gamma-Ray Bursts. *J. P. Norris, G. H. Share, D. C. Messina, B. R. Dennis, U. D. Desai, T. L. Cline, S. M. Matz, & E. L. Chupp.* 301, 213, 16-C7 (1986)

Discovery of 5 Hz Quasi-periodic Oscillations in Cygnus X-2. *J. P. Norris & K. S. Wood.* 312, 732, 11-A1 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806−20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

Search for Millisecond X-Ray Pulsations from the Galactic Bulge X-Ray Source GX 9+1. *P. Hertz, J. P. Norris, K. S. Wood, B. A. Vaughan, & P. F. Michelson.* 354, 267, 77-D7 (1990)

Independence of Short Time Scale Fluctuations of Quasi-periodic Oscillations and Low-Frequency Noise in GX 5−1. *J. P. Norris, P. Hertz, K. S. Wood, B. A. Vaughan, P. F. Michelson, K. Mitsuda, & T. Dotani.* 361, 514, 164-E1 (1990)

Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)

NORRIS, JAY P. Is Hercules X-1 a Strange Attractor? *Jay P. Norris & Terry A. Matilsky.* 346, 912, 178-E1 (1989)

NORRIS, JOHN. Carbon and M Stars in Nearby Galaxies: A Preliminary Survey Using a Photometric Technique. *Kem H. Cook, Marc Aaronson, & John Norris.* 305, 634, 75-G1 (1986)

Population Studies. III. Further Comparison of Spectroscopically and Kinematically Selected Halo Samples. *John Norris.* 307, 123, 96-D3 (1986)

Population Studies. II. Kinematics as a Function of Abundance and Galactocentric Position for [Fe/H]≤ -0.6. *John Norris.* 61, 667, 26-F11 (1986)

The Blue Stragglers of Omega Centauri. *G. S. Da Costa, John Norris, & Jens Verner Villumsen.* 308, 743, 117-B2 (1986)

The Ellipticities of Globular Clusters and the Cyanogen Problem. *John Norris.* 313, L65, 27-C7 (1987)

Population Studies: The Nature of the Thick Disk. *John Norris.* 314, L39, 39-B4 (1987)

NORRIS, JOHN E. The Giant Branch of Omega Centauri. III. C, N, O and Heavy-Element Abundances for 15 Red Giants. *G. Paltoglou & John E. Norris.* 336, 185, 3-D5 (1989)

Population Studies: Evidence for Accretion of the Galactic Halo. *John E. Norris & Sean G. Ryan.* 336, L17, 8-C13 (1989)

Population Studies. VI. The Transition from Halo to Thin Disk. *John E. Norris & E. M. Green.* 337, 272, 20-F9 (1989)

Population Studies. VII. On the Use of *UBV* Data for Kinematically Selected Samples to Determine the Dependence of Kinematics on Abundance. *John E. Norris & Sean G. Ryan.* 340, 739, 77-F1 (1989)

^{9}Be Abundance in Population II Stars: Implications for Light-Element Nucleosynthesis. *Sean G. Ryan, M. S. Bessell, Ralph S. Sutherland, & John E. Norris.* 348, L57, 13-B10 (1990)

Population Studies: The Age Difference between the Globular Clusters NGC 288 and NGC 362. *E. M. Green & John E. Norris.* 353, L17, 67-C1 (1990)

NORRIS, P. M. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

NORRIS, R. The Spatial Distribution of the OH Masers in Orion-KL. *K. J. Johnston, V. Migenes, & R. Norris.* 341, 847, 95-F2 (1989)

NORRIS, R. P. Widespread Strong Methanol Masers near H II Regions. *R. P. Norris, J. L. Caswell, F. F. Gardner, & K. J. Wellington.* 321, L159, 137-E8 (1987)

The Parkes-Tidbinbilla Interferometer. *R. P. Norris, M. J. Kesteven, K. J. Wellington, & M. J. Batty.* 67, 85, 11-D1 (1988)

Milliarcsecond Observations of 12 GHz Methanol Masers. *W. H. McCutcheon, K. J. Wellington, R. P. Norris, J. L. Caswell, M. J. Kesteven, J. E. Reynolds, & R.-S. Peng.* 333, L79, 152-E11 (1988)

VLBI Observations of the OH Megamaser in IC 4553 (Arp 220). *P. J. Diamond, R. P. Norris, W. A. Baan, & R. S. Booth.* 340, L49, 83-B1 (1989)

The Proper Motion of the Vela Pulsar. *M. Bailes, R. N. Manchester, M. J. Kesteven, R. P. Norris, & J. E. Reynolds.* 343, L53, 132-C5 (1989)

Compact Radio Cores in Extremely Luminous Far-Infrared Galaxies. *R. P. Norris, D. A. Allen, R. A. Sramek, M. J. Kesteven, & E. R. Troup.* 359, 291, 139-F1 (1990)

NORTH, A. R. Pulsed Very High Energy Gamma Rays from the *COS B* Source 2CG 006−00. *B. C. Raubenheimer, A. R. North, O. C. de Jager, G. van Urk, & A. J. van Tonder.* 307, L43, 107-B5 (1986)

A TeV Triple Peak from PSR 1509−58? *O. C. de Jager, B. C. Raubenheimer, A. R. North, H. I. Nel, & G. Van Urk.* 329, 831, 86-B4 (1988)

The Temporal Structure of Very High Energy Gamma Rays from Vela X-1. *B. C. Raubenheimer, A. R. North, O. C. de Jager, & H. I. Nel.* 336, 394, 6-B1 (1989)

Temporal Structure of Very High Energy Gamma Radiation from PSR 1509−58. *H. I. Nel, O. C. de Jager, B. C. Raubenheimer, A. R. North, & C. Brink.* 361, 181, 159-C1 (1990)

MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

NOTA, ANTONELLA. Dust in the Circumstellar Environment of AG Carinae: Evidence for a Bipolar and Helical Structure. *Francesco Paresce & Antonella Nota.* 341, L83, 100-B1 (1989)

NOTTALE, L. Peculiar Morphology of the High-Redshift Radio Galaxies 3C 13 and 3C 256 in Subarcsecond Seeing. *O. Le Fèvre, F. Hammer, L. Nottale, A. Mazure, & C. Christian.* 324, L1, 9-A4 (1988)

NOUSEK, J. Observations of Soft X-Ray Spectra from a Seyfert 1 and a Narrow Emission-Line Galaxy: Erratum. *K. P. Singh, G. P. Garmire, & J. Nousek.* 312, 484, 6-B10 (1987) (Orig. paper in 297, 633, 108-D10 (1985))

HEAO 1 A-2 Low-Energy Detector X-Ray Spectra of the Cygnus Loop. *D. A. Leahy, R. Fink, & J. Nousek.* 363, 547, 191-A1 (1990)

NOUSEK, J. A. H1504+65: An Extraordinarily Hot Compact Star Devoid of Hydrogen and Helium. *J. A. Nousek, Harry L. Shipman, J. B. Holberg, James Liebert, Steven H. Pravdo, N. E. White, & Paolo Giommi.* 309, 230, 122-D9 (1986)

A 9 Month Long Soft X-Ray Survey of the Large Magellanic Cloud. I. X-Ray Map at 1/4 keV. *K. P. Singh, J. A. Nousek, D. N. Burrows, & G. P. Garmire.* 313, 185, 17-A7 (1987)

Activity in X-Ray–selected Late-Type Stars. *Leo O. Takalo & J. A. Nousek.* 326, 779, 42-B7 (1988)

Phase-resolved *IUE* Observations of AM Herculis System E1405–451. *L. O. Takalo & J. A. Nousek.* 327, 328, 50-E8 (1988)

Search for Soft X-Ray Emission from SN 1987A with a CCD X-Ray Imaging Spectrometer. *D. N. Burrows, J. A. Nousek, G. D. Berthiaume, & G. P. Garmire.* 347, 1114, 197-D7 (1989)

NOUSEK, JOHN A. X-Ray–selected M Dwarfs and the Diffuse X-Ray Background. *Jean-Pierre Caillault, David J. Helfand, John A. Nousek, & Leo O. Takalo.* 304, 318, 57-D5 (1986)

ψ^2 and *C* Statistic Minimization for Low Count per Bin Data. *John A. Nousek & David R. Shue.* 342, 1207, 117-A1 (1989)

NOVAK, G. The Polarization of the Far-Infrared Radiation from the Galactic Center. *M. W. Werner, J. A. Davidson, M. Morris, G. Novak, S. R. Platt, & R. H. Hildebrand.* 333, 729, 148-C1 (1988)

Polarization of Far-Infrared Radiation from Molecular Clouds. *G. Novak, D. P. Gonatas, R. H. Hildebrand, S. R. Platt, & M. Dragovan.* 345, 802, 160-F1 (1989)

Polarization of the $\lambda = 1.3$ Millimeter Continuum Radiation from the Kleinmann-Low Nebula. *G. Novak, C. R. Predmore, & P. F. Goldsmith.* 355, 166, 89-A7 (1990)

The Far-Infrared Polarization of the Orion Nebula. *D. P. Gonatas, G. A. Engargiola, R. H. Hildebrand, S. R. Platt, X. D. Wu, J. A. Davidson, G. Novak, D. K. Aitken, & C. Smith.* 357, 132, 112-F4 (1990)

The Magnetic Field in the Dust Ring at the Center of the Galaxy. *R. H. Hildebrand, D. P. Gonatas, S. R. Platt, X. D. Wu, J. A. Davidson, M. W. Werner, G. Novak, & M. Morris.* 362, 114, 170-E3 (1990)

NOVEMBER, LAURENCE J. Precise Proper-Motion Measurement of Solar Granulation. *Laurence J. November & George W. Simon.* 333, 427, 142-G2 (1988)

The Vertical Component of the Supergranular Convection. *Laurence J. November.* 344, 494, 139-B1 (1989)

NOVICK, R. Astrophysical Implications and Observational Prospects of X-Ray Polarimetry. *P. Mészáros, R. Novick, G. A. Chanan, M. C. Weisskopf, & A. Szentgyörgyi.* 324, 1056, 15-B5 (1988)

NOYES, R. On the Alpha Orionis Triple System. *M. Karovska, P. Nisenson, & R. Noyes.* 308, 260, 110-G11 (1986)

Detection of a Very Bright Source Close to the LMC Supernova SN 1987A. *P. Nisenson, C. Papaliolios, M. Karovska, & R. Noyes.* 320, L15, 114-B4 (1987)

Detection of a Very Bright Source Close to the LMC Supernova SN 1987A: Erratum. *P. Nisenson, C. Papaliolios, M. Karovska, & R. Noyes.* 324, L35, 9-C8 (1988) (Orig. paper in 320, L15, 114-B4 (1987))

NOYMER, ANDREW J. The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)

NOZAKURA, TOSHIYA. Spiral Patterns on a Differentially Rotating Galactic Disk: Self-organized Structures in Galaxies. *Toshiya Nozakura & Satoru Ikeuchi.* 333, 68, 138-F6 (1988)

NOZAWA, S. Emergence of Solar Magnetic Flux from the Convection Zone into the Photosphere and Chromosphere. *K. Shibata, S. Nozawa, R. Matsumoto, A. C. Sterling, & T. Tajima.* 351, L25, 43-D1 (1990)

A Remarkable Multilobe Molecular Outflow: ρ Ophiuchi East, Associated with IRAS 16293–2422. *A. Mizuno, Y. Fukui, T. Iwata, S. Nozawa, & T. Takano.* 356, 184, 101-D1 (1990)

Nonlinear Excitation of Magnetic Undular Instability by Convective Motion. *M. Kaisig, T. Tajima, K. Shibata, S. Nozawa, & R. Matsumoto.* 358, 698, 132-C3 (1990)

NULSEN, P. The Ionization Effects of Shock Breakout in SN 1987A. *M. A. Dopita, S. J. Meatheringham, P. Nulsen, & P. R. Wood.* 322, L85, 152-C5 (1987)

NULSEN, P. E. J. The Detection of Distant Cooling Flows and the Formation of Dark Matter. *A. C. Fabian, K. A. Arnaud, P. E. J. Nulsen, & R. F. Mushotzky.* 305, 9, 67-B1 (1986)

Speckle Interferometry of SN 1987A up to One Year after Explosion. *P. R. Wood, P. E. J. Nulsen, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 339, 1073, 65-A1 (1989)

The Dynamics of Shell Formation. *P. E. J. Nulsen.* 346, 690, 176-A4 (1989)

Speckle Interferometry of SN 1987A: Final Measurements. *P. E. J. Nulsen, P. R. Wood, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 358, 266, 125-D6 (1990)

NÚÑEZ, L. Propagation of a Shock Wave in a Radiating Spherically Symmetric Distribution of Matter. *L. Herrera & L. Núñez.* 319, 868, 104-D11 (1987)

Modeling "Hydrodynamic Phase Transitions" in a Radiating Spherically Symmetric Distribution of Matter. *L. Herrera & L. Núñez.* 339, 339, 54-C4 (1989)

NÚÑEZ, L. A. Luminosity Profiles and the Evolution of Shock Waves in General Relativistic Radiating Spheres. *L. Herrera & L. A. Núñez.* 364, 212, 196-F4 (1990)

NUSSER, ADI. Filamentary Structure from Gaussian Fluctuations Using the Adhesion Approximation. *Adi Nusser & Avishai Dekel.* 362, 14, 169-C1 (1990)

NUSSINOV, SHMUEL. Neutrino Annihilation in Type II Supernovae. *Jeremy Goodman, Arnon Dar, & Shmuel Nussinov.* 314, L7, 33-B9 (1987)

Could Unstable Relic Particles Distort the Microwave Background Radiation? *Arnon Dar, Abraham Loeb, & Shmuel Nussinov.* 338, L41, 49-A10 (1989)

NUTH, J. A., III. CO Formation in the Metal-rich Ejecta of SN 1987A. *S. J. Petuchowski, E. Dwek, J. E. Allen, Jr., & J. A. Nuth III.* 342, 406, 105-F14 (1989)

NUTH, JOSEPH A. SiH and the Unidentified 4.6 Micron Feature. *Joseph A. Nuth & Marla H. Moore.* 329, L113, 89-F11 (1988)

Laboratory Experiments on Carbonaceous Material as a Source for the Red Rectangle Visual Emissions. *Thomas J. Wdowiak, Bertram Donn, Joseph A. Nuth, Emmett Chappelle, & Marla Moore.* 336, 838, 12-G8 (1989)

NUTH, JOSEPH A., III. Refractory Grain Processing in Circumstellar Shells: Diagnostic Infrared Signatures. *Joseph A. Nuth III, Bertram Donn, & Robert Nelson.* 310, L83, 145-B9 (1986)

SiO Cooling Instability in the Envelopes of Cool Giant Stars. *David O. Muchmore, Joseph A. Nuth III, & Robert E. Stencel.* 315, L141, 49-F10 (1987)

The Formation and Annealing of Circumstellar Dust, as Gauged by *IRAS* Low-Resolution Spectra and the Microwave Maser Chronology. *Robert E. Stencel, Joseph A. Nuth III, Irene R. Little-Marenin, & Stephen J. Little.* 350, L45, 37-C6 (1990)

NYMAN, L.-Å. A Large Molecular Cloud in Lupus far from the Galactic Plane. *L.-Å. Nyman, P. Thaddeus, L. Bronfman, & R. S. Cohen.* 314, 374, 32-C4 (1987)

A Composite CO Survey of the Entire Milky Way. *T. M. Dame, H. Ungerechts, R. S. Cohen, E. J. de Geus, I. A. Grenier, J. May, D. C. Murphy, L.-Å. Nyman, & P. Thaddeus.* 322, 706, 147-D13 (1987)

OATTES, L. M. On the Effects of Inhomogeneity on the Luminosity Structure of the Past Null Cone. *C. C. Dyer & L. M. Oattes.* 326, 50, 32-E3 (1988)

OBERTO, YVETTE. On the Evolution of Lithium 7 in Globular Clusters. *Elisabeth Vangioni-Flam, Michel Cassé, & Yvette Oberto.* 349, 510, 21-F1 (1990)

The Evolution of ^{9}Be. *Elisabeth Vangioni-Flam, Michel Cassé, Jean Audouze, & Yvette Oberto.* 364, 568, 203-B12 (1990)

O'BRIEN, ESTELA V. Using Far-Infrared Limb Brightening to Probe Isolated Dark Globules. *Chun Ming Leung, Estela V. O'Brien, & Russell Dubisch.* 337, 293, 21-A9 (1989)

O'BRIEN, GEORGE T., JR. The 10830 Å Chromospheric Line of Helium in Bright Stars. *George T. O'Brien, Jr., & David L. Lambert.* 62, 899, 43-G7 (1986)

O'BRIEN, PAUL. Lyman-α Emission in Star-forming Galaxies. *Lee W. Hartmann, John P. Huchra, Margaret J. Geller, Paul O'Brien, & Robert Wilson.* 326, 101, 33-B11 (1988)

O'BRIEN, PAUL T. The Strength of Optical Fe II Emission in Quasi-stellar Objects. *Wei Zheng & Paul T. O'Brien.* 353, 433, 69-D4 (1990)
Differential Line Development and the Complex Structure of the Broad-Line Region in Fairall 9. *Wei Zheng & Paul T. O'Brien.* 356, 463, 106-A12 (1990)
O'BRIEN, S. C. Long Carbon Chain Molecules in Circumstellar Shells. *H. W. Kroto, J. R. Heath, S. C. O'Brien, R. F. Curl, & R. E. Smalley.* 314, 352, 32-A9 (1987)
OCCHIONERO, FRANCO. Breaking Scale Invariance with Quantum Gravity. *Luca Amendola, Franco Occhionero, & Diego Saez.* 349, 399, 20-C1 (1990)
O'CONNELL, R. F. Relativistic Kepler's Third Law. *Bruce M. Barker, Gene G. Byrd, & R. F. O'Connell.* 305, 623, 75-F3 (1986)
O'CONNELL, R. M. The Correlation of X-Ray and Optical Luminosities of Early-Type Galaxies Using New Data and Distances. *R. Hank Donnelly, S. M. Faber, & R. M. O'Connell.* 354, 52, 74-F1 (1990)
O'CONNELL, R. W. The Strong UV Source in the Active E Galaxy NGC 4552. *R. W. O'Connell, T. X. Thuan, & J. J. Puschell.* 303, L37, 53-C1 (1986)
O'CONNELL, ROBERT W. Horizontal-Branch Stars in NGC 6752 with Strong Helium Lines. *Deborah A. Crocker, Robert T. Rood, & Robert W. O'Connell.* 309, L23, 125-E1 (1986)
Spectral Synthesis in the Ultraviolet. I. Far-Ultraviolet Stellar Library. *Michael N. Fanelli, Robert W. O'Connell, & Trinh X. Thuan.* 321, 768, 133-A1 (1987)
Multiple Populations on the Horizontal Branch. I. Observations in the ($\log g$, $\log T_{\rm eff}$)–Diagram. *Deborah A. Crocker, Robert T. Rood, & Robert W. O'Connell.* 332, 236, 125-F7 (1988)
Spectral Synthesis in the Ultraviolet. II. Stellar Populations and Star Formation in Blue Compact Galaxies. *Michael N. Fanelli, Robert W. O'Connell, & Trinh X. Thuan.* 334, 665, 163-F5 (1988)
Infrared Emission from Central Dominant Galaxies in X-Ray Luminous Clusters. *Joel N. Bregman, Brian R. McNamara, & Robert W. O'Connell.* 351, 406, 45-B1 (1990)
Images in the Rocket Ultraviolet: Star Formation and Extinction in the M51 System. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert W. O'Connell, & Theodore P. Stecher.* 352, 55, 50-F13 (1990)
H I Absorption toward Cooling Flows in Clusters of Galaxies. *Brian R. McNamara, Joel N. Bregman, & Robert W. O'Connell.* 360, 20, 145-C9 (1990)
Spectral Synthesis in the Ultraviolet. III. The Spectral Morphology of Normal Stars in the Mid-Ultraviolet. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 364, 272, 197-D6 (1990)
ODA, H. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)
ODA, M. A Scanning Modulation Collimator Observation of the High Energy X-Ray Source in the Crab Nebula. *R. M. Pelling, W. S. Paciesas, L. E. Peterson, K. Makishima, M. Oda, Y. Ogawara, & S. Miyamoto.* 319, 416, 97-F7 (1987)
O'DEA, CHRISTOPHER P. Multifrequency VLA Observations of the Prototypical Narrow-Angle Tail Radio Source, NGC 1265. *Christopher P. O'Dea & Frazer N. Owen.* 301, 841, 24-G4 (1986)
Observational Constraints on Bending the Wide-Angle Tailed Radio Galaxy 1919+479. *Jack O. Burns, Christopher P. O'Dea, Stephen A. Gregory, & Thomas J. Balonek.* 307, 73, 95-F9 (1986)
Astrophysical Implications of the Multifrequency VLA Observations of NGC 1265. *Christopher P. O'Dea & Frazer N. Owen.* 316, 95, 51-A11 (1987)
Narrow-Angle Tail Radio Sources and the Distribution of Galaxy Orbits in Abell Clusters. *Christopher P. O'Dea, Craig L. Sarazin, & Frazer N. Owen.* 316, 113, 51-C1 (1987)
Numerical Simulations of the Bending of Narrow-Angle–Tail Radio Jets by Ram Pressure or Pressure Gradients. *Noam Soker, Christopher P. O'Dea, & Craig L. Sarazin.* 327, 627, 55-E4 (1988)
Long-Slit Spectroscopy of 3C 31, 3C 75, 3C 465, NGC 1265, and Cygnus A. *Frazer N. Owen, Christopher P. O'Dea, & William C. Keel.* 352, 44, 50-F1 (1990)
ODEGARD, NILS. Decameter Wavelength Observations of the Rosette Nebula and the Monoceros Loop Supernova Remnant. *Nils Odegard.* 301, 813, 24-E4 (1986)
O'DELL, C. R. Turbulent Motion in Galactic H II Regions. *C. R. O'Dell.* 304, 767, 64-E5 (1986)
Fine-Scale Motion in the Central Orion Nebula. *Héctor O. Castañeda & C. R. O'Dell.* 315, L55, 45-E9 (1987)
Statistical Equilibrium in Cometary C_2. IV. A 10 Level Model Including Singlet-Triplet Transitions. *K. S. Krishna Swamy & C. R. O'Dell.* 317, 543, 69-G7 (1987)
Fine-Scale Motion in NGC 6514 and NGC 6523. *C. R. O'Dell, L. K. Townsley, & Hector O. Castañeda.* 317, 676, 73-D10 (1987)
Evidence for Turbulence in H II Regions. *C. R. O'Dell & Hector O. Castañeda.* 317, 686, 73-E6 (1987)
Spectrophotometry of Comets Giacobini-Zinner and Halley. *Stephen C. Tegler & C. R. O'Dell.* 317, 987, 77-A2 (1987)
C_2 in Comet Halley: Evidence for Its Being Third Generation and Resolution of the Vibrational Population Discrepancy. *C. R. O'Dell, Ronald R. Robinson, K. S. Krishna Swamy, Patrick J. McCarthy, & Hyron Spinrad.* 334, 476, 160-B1 (1988)
Spectrophotometry near the Atmospheric Cutoff of the Strongest Bowen Resonance Fluorescence Lines of O III in Two Planetary Nebulae. *C. R. O'Dell & Chet B. Opal.* 341, L79, 100-A9 (1989)
A Kinematic Determination of the Structure of the Double Ring Planetary Nebula NGC 2392, the Eskimo. *C. R. O'Dell, Larry D. Weiner, & You-Hua Chu.* 362, 226, 172-A3 (1990)
O'DELL, S. L. The Origin of the Photoionizing Continuum of Active Galactic Nuclei and Quasars. *S. L. O'Dell, H. A. Scott, & W. A. Stein.* 313, 164, 16-F14 (1987)
Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)
Flat-Spectrum, Variable Radio Sources. *S. L. O'Dell.* 327, 60, 47-F1 (1988)
ODENWALD, S. Far-Infrared and Radio Observations of DR 6, DR 7, and DR 22. *S. Odenwald, K. Shivanandan, M. Campbell, G. Fazio, P. Schwartz, & H. Moseley.* 306, 122, 82-E7 (1986)
ODENWALD, S. F. The Ursa Major I(S) Galaxy Group: ^{12}CO and Far-Infrared Observations. *S. F. Odenwald.* 310, 86, 133-A7 (1986)
Five Unusual Compact CO Sources in the Cygnus X Region. *S. F. Odenwald & P. R. Schwartz.* 345, L47, 157-E1 (1989)
ODENWALD, STEN F. An *IRAS* Survey of Infrared Excesses in G-Type Stars. *Sten F. Odenwald.* 307, 711, 104-F6 (1986)
An *IRAS* Survey of IR Excesses in G-Type Stars. *Sten F. Odenwald.* 314, 830, 38-F2 (1987) (Orig. paper in 307, 711, 104-F6 (1986))
Hydrodynamical Processes in the Draco Molecular Cloud. *Sten F. Odenwald & Lee J Rickard.* 318, 702, 88-E7 (1987)
Comet-like Clouds at Far-Infrared and Optical Wavelengths: Mach Cones and Hydrodynamics? *Sten F. Odenwald.* 325, 320, 22-F2 (1988)
O'DONOGHUE, AILEEN A. VLA Observations of Wide-Angle Tailed Radio Sources. *Aileen A. O'Donoghue, Frazer N. Owen, & Jean A. Eilek.* 72, 75, 2-F9 (1990)
O'DONOGHUE, D. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)
ÖGELMAN, H. *EXOSAT* Observations of the 35 Day Cycle of Hercules X-1: Evidence for Neutron Star Precession. *J. Trümper, P. Kahabka, H. Ögelman, W. Pietsch, & W. Voges.* 300, L63, 13-E1 (1986)
ÖGELMAN, HAKKI. Measurement of the Vela Pulsar's Proper Motion and Detection of the Optical Counterpart of Its Compact X-Ray

Nebula. *Hakki Ögelman, Lydie Koch-Miramond, & Michel Auriére.* 342, L83, 117-D13 (1989)
Spin-up of Young Pulsars Due to Rapid Cooling by Neutrino Emission. *M. Ali Alpar & Hakki Ögelman.* 349, L55, 24-C11 (1990)
Period Measurements of the 50 Millisecond Pulsar PSR 0540–69 with the *EXOSAT* Satellite. *Hakki Ögelman & Günther Hasinger.* 353, L21, 67-C6 (1990)
OEGERLE, W. R. Peculiar Velocities of cD Galaxies: MX Spectroscopy of Abell 1795. *John M. Hill, Paul Hintzen, W. R. Oegerle, W. Romanishin, M. P. Lesser, J. D. Eisenhamer, & D. J. Batuski.* 332, L23, 129-C13 (1988)
OEMLER, AUGUSTUS, JR. The Stellar Population of NGC 6166. *Francesco Bertola, Michael D. Gregg, James E. Gunn, & Augustus Oemler, Jr.* 303, 624, 49-C12 (1986)
A Survey of the Bootes Void. *Robert P. Kirshner, Augustus Oemler, Jr., Paul L. Schechter, & Stephen A. Shectman.* 314, 493, 35-A2 (1987)
Profiles of Clusters of Galaxies: Cosmological Scenarios versus Observations. *Michael J. West, Avishai Dekel, & Augustus Oemler, Jr.* 316, 1, 50-A8 (1987)
Subclustering in Rich Clusters of Galaxies and Their Environs. *Michael J. West, Augustus Oemler, Jr., & Avishai Dekel.* 327, 1, 47-A7 (1988)
Cosmological Alignment of Clusters of Galaxies with Their Surroundings: A Problem for Cold Dark Matter? *Michael J. West, Avishai Dekel, & Augustus Oemler, Jr.* 336, 46, 1-E12 (1989)
The Clustering of Dwarf Galaxies. *Jo Ann Eder, James M. Schombert, Avishai Dekel, & Augustus Oemler, Jr.* 340, 29, 67-C10 (1989)
The Radius-Mass Relation for Clusters of Galaxies: Cosmological Scenarios versus Observations. *Michael J. West, Augustus Oemler, Jr., & Avishai Dekel.* 346, 539, 174-C1 (1989)
ÖSTREICHER, R. The Origin of the 10 Megagauss Zeeman Features in the AM Herculis System EF Eridani. *R. Östreicher, W. Seifert, G. Wunner, & H. Ruder.* 350, 324, 29-A7 (1990)
OEY, M. S. Weak Bump Quasars. *Jonathan C. McDowell, Martin Elvis, Belinda J. Wilkes, Steven P. Willner, M. S. Oey, Elisha Polomski, Jill Bechtold, & Richard F. Green.* 345, L13, 157-B5 (1989)
ÖZEL, M. E. On the High-Energy Gamma-Ray Signature of Cosmic-Ray Sources. *J. F. Ormes, M. E. Özel, & D. J. Morris.* 334, 722, 164-D1 (1988)
OFF-CAMPUS PROGRAM STUDENTS, THE. Optical Observations of the X-Ray Binary V1727 Cygni (=4U 2129+47) during a Low State: Some Unexpected Results. *John R. Thorstensen, Kenneth R. Brownsberger, Delo E. Mook, The Off-Campus Program Students, Ronald A. Remillard, Jeffrey E. McClintock, David C. Koo, & Philip A. Charles.* 334, 430, 159-E1 (1988)
OFMAN, L. Thermally Conductive Magnetohydrodynamic Flows in Helmet-Streamer Coronal Structures. *S. Cuperman, L. Ofman, & M. Dryer.* 350, 846, 36-D13 (1990)
OGATA, SHUJI. Freezing Transition and Phase Diagram of Dense Carbon-Oxygen Mixtures in White Dwarfs. *Setsuo Ichimaru, Hiroshi Iyetomi, & Shuji Ogata.* 334, L17, 161-C1 (1988)
Electric and Thermal Conductivities of Quenched Neutron Star Crusts. *Shuji Ogata & Setsuo Ichimaru.* 361, 511, 164-D10 (1990)
OGATA, T. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)
OGAWA, H. ^{13}CO in Orion. *K. Sugitani, Y. Fukui, H. Ogawa, & K. Kawabata.* 303, 667, 49-G3 (1986)
Discovery of Seven Bipolar Outflows by an Unbiased Survey. *Y. Fukui, K. Sugitani, H. Takaba, T. Iwata, A. Mizuno, H. Ogawa, & K. Kawabata.* 311, L85, 160-E12 (1986)
Molecular Line Study of a Bipolar Outflow Object NGC 2071–NORTH in L1630. *T. Iwata, Y. Fukui, & H. Ogawa.* 325, 372, 23-C7 (1988)
OGAWA, H. S. *Pioneer 10* Observations of the Beta Cephei Stars Gamma Pegasi and Delta Ceti. *Geraldine J. Peters, H. S. Ogawa, K. S. Judge, & D. L. Judge.* 314, 261, 31-A3 (1987)
The Hydrogen Density of the Local Interstellar Medium and an Upper Limit to the Galactic Glow Determined from *Pioneer 10* Ultraviolet Photometer Observations. *F. M. Wu, P. Gangopadhyay, H. S. Ogawa, & D. L. Judge.* 331, 1004, 120-A11 (1988)
Evidence of a Nearby Solar Wind Shock as Obtained from Distant *Pioneer 10* Ultraviolet Glow Data. *P. Gangopadhyay, H. S. Ogawa, & D. L. Judge.* 336, 1012, 15-B1 (1989)
OGAWA, HIDEO. A Newly Discovered Molecular Cloud in Cepheus OB4. *Ji Yang, Yasuo Fukui, Tomofumi Umemoto, Hideo Ogawa, & Hua Chen.* 362, 538, 177-D5 (1990)
OGAWARA, Y. A Scanning Modulation Collimator Observation of the High Energy X-Ray Source in the Crab Nebula. *R. M. Pelling, W. S. Paciesas, L. E. Peterson, K. Makishima, M. Oda, Y. Ogawara, & S. Miyamoto.* 319, 416, 97-F7 (1987)
OGIO, S. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)
OGMEN, M. Laboratory Synthesis of Hydrogenated Amorphous Carbon Films. *M. Ogmen & W. W. Duley.* 334, L117, 169-G1 (1988)
OHARA, S. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)
OHASHI, N. Star Formation in Bright-rimmed Globules: Evidence for Radiation-driven Implosion. *K. Sugitani, Y. Fukui, A. Mizuno, & N. Ohashi.* 342, L87, 117-E5 (1989)
OHASHI, T. X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)
X-Ray Spectrum of the Spiral Galaxy M51 (NGC 5194). *K. Makishima, T. Ohashi, H. Kondo, G. G. C. Palumbo, & G. Trinchieri.* 365, 159, 208-B3 (1990)
X-Ray Observations of NGC 253 and M83 with *Ginga*. *T. Ohashi, K. Makishima, T. Tsuru, S. Takano, K. Koyama, & G. C. Stewart.* 365, 180, 208-D9 (1990)
Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)
OHASHI, Y. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)
OHISHI, M. A Sensitive Line Search in Circumstellar Envelopes. *Nguyen-Quang-Rieu, S. Deguchi, H. Izumiura, N. Kaifu, M. Ohishi, H. Suzuki, & Nobuharu Ukita.* 330, 374, 94-D1 (1988)
Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine,*

P. Friberg, Á. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys. 334, L107, 169-F5 (1988)

A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)

Search for HC_3NH^+: The Upper Limit of the Column Density in TMC-1. *T. Amano, S. Saito, S. Yamamoto, K. Kawaguchi, H. Suzuki, M. Ohishi, & N. Kaifu.* 351, 500, 46-C6 (1990)

OHISHI, MASATOSHI. Detection of Intense Unidentified Lines in TMC-1. *Norio Kaifu, Hiroko Suzuki, Masatoshi Ohishi, Takeshi Miyaji, Shin-ichi Ishikawa, Takashi Kasuga, Masaki Morimoto, & Shuji Saito.* 317, L111, 78-E14 (1987)

Laboratory Detection and Astronomical Identification of a New Free Radical, CCS($^3\Sigma^-$). *Shuji Saito, Kentarou Kawaguchi, Satoshi Yamamoto, Masatoshi Ohishi, Hiroko Suzuki, & Norio Kaifu.* 317, L115, 78-F3 (1987)

Laboratory Detection of a New Carbon-Chain Molecule C_3S and Its Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Norio Kaifu, Hiroko Suzuki, & Masatoshi Ohishi.* 317, L119, 78-F7 (1987)

Level Population and Para/Ortho Ratio of Fluorescent H_2 in NGC 2023. *Tetsuo Hasegawa, Ian Gatley, Ron P. Garden, Peter W. J. L. Brand, Masatoshi Ohishi, Masahiko Hayashi, & Norio Kaifu.* 318, L77, 92-D12 (1987)

Laboratory and Astronomical Detection of the Cyclic H_3H Radical. *Satoshi Yamamoto, Shuji Saito, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, Norio Kaifu, & Akinori Murakami.* 322, L55, 145-D12 (1987)

Laboratory Microwave Spectroscopy of the Vibrational Satellites for the ν_7 and $2\nu_7$ States of C_4H and Their Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, M. Guélin, J. Cernicharo, Hiroko Suzuki, & Masatoshi Ohishi.* 323, L149, 164-E8 (1987)

The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)

Laboratory Detection of a New Interstellar Free Radical $CH_2CN(^2B_1)$. *Shuji Saito, Satoshi Yamamoto, W. M. Irvine, L. M. Ziurys, Hiroko Suzuki, Masatoshi Ohishi, & Norio Kaifu.* 334, L113, 169-F10 (1988)

The Microwave Spectrum of the CP Radical and Related Astronomical Search. *Shuji Saito, Satoshi Yamamoto, Kentarou Kawaguchi, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, & Norio Kaifu.* 341, 1114, 99-A1 (1989)

Detection of a New Circumstellar Carbon Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)

Laboratory Microwave Spectroscopy of the Linear C_3 and C_3D Radicals and Related Astronomical Observation. *Satoshi Yamamoto, Shuji Saito, Hiroko Suzuki, Shuji Deguchi, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 348, 363, 5-E1 (1990)

Rotational Spectrum of the CCS Radical Studied by Laboratory Microwave Spectroscopy and Radio-astronomical Observations. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Yoshihiro Chikada, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 361, 318, 160-G7 (1990)

Detection of Five ^{13}C Isotopic Species of HC_5N in TMC-1. *Shuro Takano, Hiroko Suzuki, Masatoshi Ohishi, Shin-ichi Ishikawa, Norio Kaifu, Yasuhiro Hirahara, & Akimasa Masuda.* 361, L15, 161-D11 (1990)

OHSAWA, YUKIHARU. Nonstochastic Prompt Proton Acceleration by Fast Magnetosonic Shocks in the Solar Plasma. *Yukiharu Ohsawa & Jun-ichi Sakai.* 313, 440, 19-G4 (1987)

Prompt Simultaneous Acceleration of Protons and Electrons to Relativistic Energies by Shock Waves in Solar Flares. *Yukiharu Ohsawa & Jun-ichi Sakai.* 332, 439, 128-A1 (1988)

Prompt Ion Acceleration to Relativistic Energies by a Large-Amplitude Magnetosonic Wave. *Yukiharu Ohsawa.* 73, 313, 22-A11 (1990)

OHTA, KOUJI. Surface Photometry of Barred Spiral Galaxies. *Kouji Ohta, Masaru Hamabe, & Ken-ichi Wakamatsu.* 357, 71, 112-A2 (1990)

OKA, T. An Infrared Spectroscopic Search for the Molecular Ion H_3^+. *T. R. Geballe & T. Oka.* 342, 855, 113-A1 (1989)

Observations of the 4 Micron Fundamental Band of H_3^+ in Jupiter. *T. Oka & T. R. Geballe.* 351, L53, 49-E10 (1990)

OKA, TAKESHI. Calculated Forbidden Rotational Spectra of H_3^+. *Fu-Shih Pan & Takeshi Oka.* 305, 518, 73-A1 (1986)

OKADA, A. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

OKAMURA, SADANORI. Surface Photometry of Dwarf Elliptical Galaxies in the Virgo Cluster. *Shin-ichi Ichikawa, Ken-ichi Wakamatsu, & Sadanori Okamura.* 60, 475, 6-G10 (1986)

Surface Photometry of Dwarf Elliptical Galaxies in the Virgo Cluster: Erratum. *Shin-ichi Ichikawa, Ken-ichi Wakamatsu, & Sadanori Okamura.* 62, 253, 34-E9 (1986) (Orig. paper in 60, 475, 6-G10 (1986))

A Statistical Study of Luminosity Profiles of Galaxies Using Spheroid-Disk Composite Models. *Keiichi Kodaira, Masaaki Watanabe, & Sadanori Okamura.* 62, 703, 40-C13 (1986)

Position Confirmation of Water Maser Emission from V778 Cygni, a Carbon Star. *S. Deguchi, R. Kawabe, N. Ukita, Y. Nakada, T. Onaka, H. Izumiura, & Sadanori Okamura.* 325, 795, 29-C5 (1988)

Discovery of a Bright X-Ray Nova, GS 2000+25. *Hiroshi Tsunemi, Shunji Kitamoto, Sadanori Okamura, & Diane Roussel-Dupré.* 337, L81, 32-C1 (1989)

OKE, J. B. Detection of [Ni II] λ7378 in Six Seyfert Galaxies. *J. P. Halpern & J. B. Oke.* 301, 753, 23-G4 (1986)

A Systematic Survey for Distant Galaxy Clusters. *J. E. Gunn, J. G. Hoessel, & J. B. Oke.* 306, 30, 81-C10 (1986)

Analysis of Four F Subdwarfs Used as Spectrophotometric Standards. *R. A. Bell & J. B. Oke.* 307, 253, 97-G1 (1986)

A Spectroscopic Study of the Cataclysmic Binary Star SU Ursae Majoris. *John R. Thorstensen, Richard A. Wade, & J. B. Oke.* 309, 721, 129-B9 (1986)

Narrow-Line Seyfert Galaxies with Permitted Fe II Emission: Markarian 507, 5C 3.100, and I Zwicky 1. *J. P. Halpern & J. B. Oke.* 312, 91, 2-A9 (1987)

The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

The Black Hole A0620−00 and Its Accretion Disk. *Helen M. Johnston, Shrinivas R. Kulkarni, & J. B. Oke.* 345, 492, 155-C1 (1989)

The Helium Abundance in the Population II Cepheid, W Virginis. *Alex Raga, George Wallerstein, & J. B. Oke.* 347, 1107, 197-C11 (1989)

OKEKE, P. N. Radio Emission from Large-Scale Radio Jets. *M. W. Anyakoha, P. N. Okeke, & S. E. Okoye.* 329, 97, 76-A7 (1988)

OKOYE, S. E. Radio Emission from Large-Scale Radio Jets. *M. W. Anyakoha, P. N. Okeke, & S. E. Okoye.* 329, 97, 76-A7 (1988)

OKUDA, HARUYUKI. Fluorescent Molecular Hydrogen Emission from the Reflection Nebula NGC 2023. *Ian Gatley, Tetsuo Hasegawa, Hiroko Suzuki, Ron Garden, Peter Brand, John Lightfoot, William*

Glencross, Haruyuki Okuda, & Tetsuya Nagata. 318, L73, 92-D4 (1987)

A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)

An Infrared Study of Starbursts in the Interacting Galaxy Pair Arp 299 (NGC 3690 + IC 694). *Takao Nakagawa, Tetsuya Nagata, T. R. Geballe, Haruyuki Okuda, Hiroshi Shibai, & Hideo Matsuhara.* 340, 729, 77-E1 (1989)

AFGL 2004: An Infrared Quintuplet near the Galactic Center. *Tetsuya Nagata, Charles E. Woodward, Mark Shure, Judith L. Pipher, & Haruyuki Okuda.* 351, 83, 39-B1 (1990)

An Infrared Quintuplet near the Galactic Center. *Haruyuki Okuda, Hiroshi Shibai, Takao Nakagawa, Hideo Matsuhara, Yukiyasu Kobayashi, Norio Kaifu, Tetsuya Nagata, I. Gatley, & T. R. Geballe.* 351, 89, 39-B11 (1990)

Infrared Polarimetry of the NGC 6334 V Bipolar Nebula. *Takao Nakagawa, Tetsuya Nagata, Hideo Matsuhara, Haruyuki Okuda, Hiroshi Shibai, & Saeko S. Hayashi.* 351, 573, 47-C1 (1990)

OKUMURA, S. High-Resolution Observations of CO from the Bipolar Nebula CRL 2688. *R. Kawabe, M. Ishiguro, T. Kasuga, K.-I. Morita, N. Ukita, H. Kobayashi, S. Okumura, E. Fomalont, & N. Kaifu.* 314, 322, 31-F1 (1987)

Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

OKUMURA, S. K. Nuclear Concentration of Molecular Gas in the Late-Type Spiral Galaxy NGC 6946: 300 Parsec Scale Gaseous Disk. *S. Ishizuki, R. Kawabe, M. Ishiguro, S. K. Okumura, K.-I. Morita, Y. Chikada, T. Kasuga, & M. Doi.* 355, 436, 93-G3 (1990)

OKUMURA, SACHIKO K. Aperture Synthesis Observations of the Molecular Environment of the Sgr A Complex. I. The M−0.13−0.08 Molecular Cloud. *Sachiko K. Okumura, Masato Ishiguro, Edward B. Fomalont, Yoshihiro Chikada, Takashi Kasuga, Koh-Ichiro Morita, Ryohei Kawabe, Hideyuki Kobayashi, Tomio Kanzawa, Hiroyuki Iwashita, & Tetsuo Hasegawa.* 347, 240, 185-A10 (1989)

OKUMURA, YOSHIHARU. Isothermality of the Gas in the Coma Cluster. *John P. Hughes, Koujun Yamashita, Yoshiharu Okumura, Hiroshi Tsunemi, & Masaru Matsuoka.* 327, 615, 55-D6 (1988)

OLALDE, J. C. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

OLBERG, M. Observations of CO Isotopic Emission and the Far-Infrared Continuum of Centaurus A. *A. Eckart, M. Cameron, H. Rothermel, W. Wild, H. Zinnecker, G. Rydbeck, M. Olberg, & T. Wiklind.* 363, 451, 189-F11 (1990)

OLDERSHAW, ROBERT L. The Self-similar Cosmological Paradigm: A New Test and Two New Predictions. *Robert L. Oldershaw.* 322, 34, 138-C12 (1987)

OLINTO, ANGELA. Strange Stars. *Charles Alcock, Edward Farhi, & Angela Olinto.* 310, 261, 134-G11 (1986)

OLIVA, E. Forbidden Lines of Si I: An Alternate Interpretation for an Infrared Emission Feature in the Spectrum of SN 1983N (M83). *E. Oliva.* 321, L45, 129-E12 (1987)

Detection of [Si VI] 1.962 Microns and New Observations of Infrared H, [Fe II], and H_2 Line Emission in the Seyfert Galaxy NGC 1068. *E. Oliva & A. F. M. Moorwood.* 348, L5, 6-A11 (1990)

OLIVE, K. A. Black Holes and Local Dark Matter. *Dennis J. Hegyi, Edward W. Kolb, & K. A. Olive.* 300, 492, 8-E2 (1986)

OLIVE, KEITH A. A Case against Baryons in Galactic Halos. *Dennis J. Hegyi & Keith A. Olive.* 303, 56, 41-E10 (1986)

G Dwarfs, White Dwarfs, and the Local Dark Matter. *Keith A. Olive.* 309, 210, 122-C3 (1986)

Chemical Evolution, Stellar Nucleosynthesis, and A Variable Star Formation Rate. *Keith A. Olive, Friedrich-Karl Thielemann, & James W. Truran.* 313, 813, 25-F1 (1987)

Evidence against Baryonic Dark Matter in Elliptical Galaxies. *Dennis J. Hegyi & Keith A. Olive.* 346, 648, 175-E1 (1989)

Neutron Stars and White Dwarfs in Galactic Halos? *Dongsu Ryu, Keith A. Olive, & Joseph Silk.* 353, 81, 63-B1 (1990)

Big Bang Nucleosynthesis and the Quark-Hadron Transition. *Hannu Kurki-Suonio, Richard A. Matzner, Keith A. Olive, & David N. Schramm.* 353, 406, 69-B1 (1990)

OLIVERSEN, R. J. Evidence for Extended Radio Emission Surrounding RX Puppis. *J. M. Hollis, R. J. Oliversen, M. Kafatos, & A. G. Michalitsianos.* 301, 877, 24-C4 (1986)

The Large-Scale Radio Structure of R Aquarii. *J. M. Hollis, M. Kafatos, A. G. Michalitsianos, R. J. Oliversen, & F. Yusef-Zadeh.* 321, L55, 129-F6 (1987)

RX Puppis: Detection of Asymmetrical Radio Structure. *J. M. Hollis, F. Yusef-Zadeh, T. J. Cornwell, R. J. Oliversen, A. G. Michalitsianos, & M. Kafatos.* 337, 514, 23-G9 (1989)

The Outer R Aquarii Nebula: Comparison of 6 Centimeter Radio Continuum and Balmer Line Emission. *J. M. Hollis, R. J. Oliversen, & R. Mark Wagner.* 337, 795, 28-G4 (1989)

Symmetrical Jet Action in the R Aquarii Binary System. *J. M. Hollis, R. Mark Wagner, & R. J. Oliversen.* 351, L17, 43-C6 (1990)

OLIVI, FABRIZIO M. Models of Spectral Energy Distributions of Elliptical Galaxies. *Guido Barbaro & Fabrizio M. Olivi.* 337, 125, 18-F6 (1989)

OLIVIER, SCOT. Projection Contamination in Cluster Catalogs: Are the Abell Redshift Sample Correlations Significant? *Avishai Dekel, George R. Blumenthal, Joel R. Primack, & Scot Olivier.* 338, L5, 40-B11 (1989)

Angular Correlations in Decontaminated Abell Catalogs. *Scot Olivier, George R. Blumenthal, Avishai Dekel, Joel R. Primack, & David Stanhill.* 356, 1, 99-B1 (1990)

OLOFSSON, H. The CO Envelope of IRC +10216. *P. J. Huggins, H. Olofsson, & L. E. B. Johansson.* 332, 1009, 135-E2 (1988)

OLOWIN, RON P. The Correlation Function of Southern Clusters. *Neta A. Bahcall, David J. Batuski, & Ron P. Olowin.* 333, L13, 144-B6 (1988)

OLOWIN, RONALD P. A Catalog of Rich Clusters of Galaxies. *George O. Abell, Harold G. Corwin, Jr., & Ronald P. Olowin.* 70, 1, 16-B1 (1989)

The Distribution of Clusters in the Southern ACO Catalog. *David J. Batuski, Neta A. Bahcall, Ronald P. Olowin, & Jack O. Burns.* 341, 599, 92-F1 (1989)

OLSON, DONALD W. Primordial Inhomogeneities in the Expanding Universe. IV. Peculiar Velocity Profiles at Late Times. *Donald W. Olson & J. C. Strickland.* 359, 263, 139-C9 (1990)

OLSON, EDWARD C. *IUE* Spectroscopy of U Cephei during the Mass Flow Outburst of 1986 June. *George E. McCluskey, Jr., Yoji Kondo, & Edward C. Olson.* 332, 1019, 135-F1 (1988)

CC Comae: An Apparent Secular Filling Factor Change. *Albert P. Linnell & Edward C. Olson.* 343, 909, 130-D10 (1989)

OLSON, KEVIN M. Gasdynamics in Interacting and Merging Galaxies. *Kevin M. Olson & John Kwan.* 349, 480, 21-C1 (1990)

Gasdynamics and Star Formation in Interacting and Merging Galaxies. *Kevin M. Olson & John Kwan.* 361, 426, 163-D4 (1990)

OLSZEWSKI, EDWARD W. High-Precision Radial Velocities for Faint Giants: Radial Velocities of Extreme Halo Systems and the Mass of the Galaxy. *Edward W. Olszewski, Ruth C. Peterson, & Marc Aaronson.* 302, L45, 40-D8 (1986)

High-Precision Radial Velocities for Faint Giants. I. MMT Echelle Results for Globular Cluster Stars. *Ruth C. Peterson, Edward W. Olszewski, & Marc Aaronson.* 307, 139, 96-E5 (1986)

Discovery of a Close Detached Binary DA White Dwarf System. *Rex A. Saffer, James Liebert, & Edward W. Olszewski.* 334, 947, 167-A1 (1988)

Velocities of Stars in Remote Galactic Satellites and the Mass of the Galaxy. *Dennis Zaritsky, Edward W. Olszewski, Robert A. Schommer, Ruth C. Peterson, & Marc Aaronson.* 345, 759, 160-B8 (1989)

Cepheids in Magellanic Cloud Star Clusters: Fundamental and Overtone Pulsators in NGC 2157. *Mario Mateo, Edward W. Olszewski, & Barry F. Madore.* 353, L11, 67-B8 (1990)

Northern Milky Way Carbon Stars: New Candidates, *JHK* Photometry, and Radial Velocities. *Marc Aaronson, Victor M. Blanco, Kem H. Cook, Edward W. Olszewski, & Paul L. Schechter.* 73, 841, 29-F1 (1990)

OMIDVAR, KAZEM. A Hillock and Cloud Model for Faculae. *Kenneth H. Schatten, Hans G. Mayr, Kazem Omidvar, & Eugene Maier.* 311, 460, 151-A13 (1986)

New Tabulation of the Bound-Continuum Optical Oscillator Strength in Hydrogenic Atoms. *Kazem Omidvar & Patricia T. Guimaraes.* 73, 555, 26-C1 (1990)

OMODAKA, T. The Bright-Rimmed Molecular Cloud around S140 IRS. II. Bipolar Outflow from S140 IRS 1. *M. Hayashi, T. Hasegawa, T. Omodaka, S. S. Hayashi, & R. Miyawaki.* 312, 327, 4-D10 (1987)

OMONT, A. Photochemistry and Molecular Ions in Oxygen-rich Circumstellar Envelopes. *G. A. Mamon, A. E. Glassgold, & A. Omont.* 323, 306, 156-D3 (1987)

Linear Polarization of Millimeter-Wave Emission Lines in Clouds without Large Velocity Gradients. *D. C. Lis, P. F. Goldsmith, R. L. Dickman, C. R. Predmore, A. Omont, & J. Cernicharo.* 328, 304, 65-C7 (1988)

Linear Polarization of HCN Maser Emission in CIT 6. *P. F. Goldsmith, D. C. Lis, A. Omont, S. Guilloteau, & R. Lucas.* 333, 873, 149-G6 (1988)

Observations of 40–70 Micron Bands of Ice in IRAS 09371+1212 and Other Stars. *A. Omont, S. H. Moseley, T. Forveille, W. J. Glaccum, P. M. Harvey, L. Likkel, R. F. Loewenstein, & C. M. Lisse.* 355, L27, 92-C11 (1990)

OMONT, ALAIN. The Rich Molecular Spectrum and the Rapid Outflow of OH 231.8+4.2. *Mark Morris, Stéphane Guilloteau, Robert Lucas, & Alain Omont.* 321, 888, 134-C5 (1987)

OMOTE, MINORU. Gravitational Lens Effects on the Redshift-Volume Measurement of the Density Parameter. *Minoru Omote & Hiroshi Yoshida.* 361, 27, 157-D1 (1990)

ONAKA, T. Water Maser Emission toward V788 Cygni, a Carbon Star. *Y. Nakada, H. Izumiura, T. Onaka, O. Hashimoto, N. Ukita, S. Deguchi, & T. Tanabé.* 323, L77, 158-F6 (1987)

Position Confirmation of Water Maser Emission from V778 Cygni, a Carbon Star. *S. Deguchi, R. Kawabe, N. Ukita, Y. Nakada, T. Onaka, H. Izumiura, & Sadanori Okamura.* 325, 795, 29-C5 (1988)

High Spectral Resolution Observations of HD 44179 at 3.2–3.7 Microns. *A. T. Tokunaga, T. Nagata, K. Sellgren, R. G. Smith, T. Onaka, Y. Nakada, A. Sakata, & S. Wada.* 328, 709, 70-G6 (1988)

Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)

Quenched Carbonaceous Composite. III. Comparison to the 3.29 Micron Interstellar Emission Feature. *A. Sakata, S. Wada, T. Onaka, & A. T. Tokunaga.* 353, 543, 70-F5 (1990)

Vacuum Ultraviolet Imagery of the Virgo Cluster Region. II. Total Far-Ultraviolet Flux of Galaxies. *K. Kodaira, T. Watanabe, T. Onaka, & W. Tanaka.* 363, 422, 189-D1 (1990)

ONAKA, TAKASHI. Infrared Spectrum of Quenched Carbonaceous Composite (QCC). II. A New Identification of the 7.7 and 8.6 Micron Unidentified Infrared Emission Bands. *Akira Sakata, Setsuko Wada, Takashi Onaka, & Alan T. Tokunaga.* 320, L63, 114-E9 (1987)

High-Resolution Spectroscopy of the 3 Micron Emission Features in NGC 7027 and IRAS 21282+5050. *Tetsuya Nagata, Alan T. Tokunaga, K. Sellgren, Robert G. Smith, Takashi Onaka, Yoshikazu Nakada, & Akira Sakata.* 326, 157, 33-G5 (1988)

ONDA, K. Para/Ortho Abundance Ratio of Molecular Hydrogen in NGC 2023. *K. Takayanagi, K. Sakimoto, & K. Onda.* 318, L81, 92-E2 (1987)

ONDRECHEN, M. P. H I in Barred Spiral Galaxies. II. NGC 1097. *M. P. Ondrechen, J. M. van der Hulst, & E. Hummel.* 342, 39, 101-D13 (1989)

ONDRECHEN, MARC P. H I in Barred Spiral Galaxies. I. NGC 1365. *Marc P. Ondrechen & J. M. van der Hulst.* 342, 29, 101-C12 (1989)

O'NEIL, EARL J., JR. An Optical Study of NGC 7538. *Beverly T. Lynds & Earl J. O'Neil, Jr.* 306, 532, 90-C6 (1986)

O'NEILL, C. M. Observational Limits on a Millihertz Stochastic Background of Gravitational Radiation. *S. P. Boughn, S. J. VanHook, & C. M. O'Neill.* 354, 406, 81-D9 (1990)

O'NEILL, TERRENCE. A Search for Gamma Rays of 1.5–20.0 MeV from Centaurus A. *Terrence O'Neill, O. Tumay Tumer, Allen Zych, & R. Stephen White.* 339, 78, 51-A2 (1989)

OPAL, CHET B. Spectrophotometry near the Atmospheric Cutoff of the Strongest Bowen Resonance Fluorescence Lines of O III in Two Planetary Nebulae. *C. R. O'Dell & Chet B. Opal.* 341, L79, 100-A9 (1989)

OPHER, R. Observational Limits on the Coronal Hole Flow Geometry in an Alfvén Wave–driven Solar Wind. *V. Jatenco-Pereira & R. Opher.* 344, 513, 139-D4 (1989)

Formation of Voids from Negative Density Perturbations. *J. C. N. de Araujo & R. Opher.* 350, 502, 32-E1 (1990)

OPHER, REUVEN. The Origin of Filaments in Extended Radio Sources. *Elisabete M. de Gouveia Dal Pino & Reuven Opher.* 342, 686, 111-A10 (1989)

Current Generation in Extragalactic Jets by Cerenkov Damping of Magnetohydrodynamic Waves. *Luiz C. Jafelice, Reuven Opher, Altair S. Assis, & José Busnardo-Neto.* 348, 61, 1-G2 (1990)

OREG, J. Resonant Excitation of $2p^5 3s$ and $2p^5 3p$ Levels in Fe XVII. *W. H. Goldstein, A. Osterheld, J. Oreg, & A. Bar-Shalom.* 344, L37, 140-D3 (1989)

OREN, Y. Searches for Narrow-Angle Anisotropies in the Primary Energy Range 0.1–10 TeV: Erratum. *O. C. Allkofer, W. D. Dau, H. Jokisch, G. Klemke, R. C. Uhr, G. Bella, & Y. Oren.* 305, 954, 79-D10 (1986) (Orig. paper in 291, 468, 40-A2 (1985))

ORFORD, K. J. SN 1987A: Limits to 400 GeV Gamma-Ray Emission. *P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, S. M. Rayner, K. J. Orford, K. E. Turver, & D. G. Williams.* 333, L19, 144-B11 (1988)

300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)

New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989))

ORIHARA, H. Experimental Determination of the $^{19}\mathrm{Ne}(p,\gamma)^{20}\mathrm{Na}$ Reaction Rate and the Breakout Problem from the Hot CNO Cycle. *S. Kubono, H. Orihara, S. Kato, & T. Kajino.* 344, 460, 138-F1 (1989)

ORIO, MARINA. Do Novae Hibernate during Most of the Millennia between Eruptions? Links between Dwarf and Classical Novae, and Implications for the Space Densities and Evolution of Cataclysmic Binaries. *Michael M. Shara, Mario Livio, Anthony F. J. Moffat, & Marina Orio.* 311, 163, 147-G3 (1986)

The Nature of the Recurrent Novae. *Ronald F. Webbink, Mario Livio, James W. Truran, & Marina Orio.* 314, 653, 36-F9 (1987)

ORLATI, MARIA ANTONIETTA. On the Source of the Violet Depression in Carbon Stars: A Study of the Balmer Decrement in Carbon Long-Period Variables. *Maria Antonietta Orlati.* 317, 819, 75-A6 (1987)

ORMES, J. F. On the High-Energy Gamma-Ray Signature of Cosmic-Ray Sources. *J. F. Ormes, M. E. Özel, & D. J. Morris.* 334, 722, 164-D1 (1988)

ORMES, JONATHAN F. Measurement of the Cosmic-Ray Iron Spectrum between 60 and 200 GeV per Nucleon. *Joseph A. Esposito, Robert E. Streitmatter, V. K. Balasubrahmanyan, & Jonathan F. Ormes.* 351, 459, 45-G1 (1990)

OROFINO, V. Interstellar Amorphous Carbon. *E. Bussoletti, L. Colangeli, & V. Orofino.* 321, L87, 130-A7 (1987)

Hydrogenated Amorphous Carbon Grains in Comet Halley? *L. Colangeli, G. Schwehm, E. Bussoletti, S. Fonti, A. Blanco, & V. Orofino.* 348, 718, 11-D4 (1990)

Temperature Behavior of Infrared Spectra of Polycyclic Aromatic Hydrocarbons and the Unidentified Infrared Bands. *A. Blanco, S. Fonti, & V. Orofino.* 364, 152, 195-G12 (1990)

OROSZ, JERRY. Do Faculae Blanket Sunspots? *Kenneth H. Schatten, Jerry Orosz, & Hans G. Mayr.* 347, 514, 188-D1 (1989)

ORRALL, F. Q. Extreme Limb Profiles of the Sun at Far-Infrared and Submillimeter Wavelengths. *C. Lindsey, E. E. Becklin, F. Q. Orrall, M. W. Werner, J. T. Jefferies, & I. Gatley.* 308, 448, 112-G13 (1986)

The Solar Coronal Density Irregularity $\overline{n^2}/(\overline{n})^2$ Derived from Simultaneous Measurements of the EUV and K-coronal Brightness. *F. Q. Orrall, G. J. Rottman, R. R. Fisher, & R. H. Munro.* 349, 656, 23-D4 (1990)

Far-Infrared Intensity Variations Caused by 5 Minute Oscillations. *C. Lindsey, G. Kopp, E. E. Becklin, T. Roellig, M. W. Werner, J. T. Jefferies, F. Q. Orrall, D. Braun, & D. L. Mickey.* 350, 475, 30-G1 (1990)

ORRALL, FRANK Q. The Systematic Radial Downflow in the Transition Region of the Quiet Sun from Limb-to-Limb Observations of the C IV Resonance Lines. *Gary J. Rottman, Donald M. Hassler, Michael D. Jones, & Frank Q. Orrall.* 358, 693, 132-B10 (1990)

ORSATTI, ANA M. NGC 362: More Arguments for Dust in Globular Clusters. *Mariano Méndez, Juan C. Forte, & Ana M. Orsatti.* 338, 136, 34-F4 (1989)

ORTOLANI, SERGIO. The Deep Luminosity Function of the Globular Cluster M30. *Giampaolo Piotto, Ivan R. King, Massimo Capaccioli, Sergio Ortolani, & S. Djorgovski.* 350, 662, 34-C14 (1990)

ORWIG, L. Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

ORWIG, L. E. A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

The High-Energy X-Ray Spectrum of Black Hole Candidate GX 339–4 during a Transition. *J. F. Dolan, C. J. Crannell, B. R. Dennis, & L. E. Orwig.* 322, 324, 141-D1 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806–20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

Temporal Correlations between Impulsive Ultraviolet and Hard X-Ray Bursts in Solar Flares Observed with High Time Resolution. *Chung-Chieh Cheng, K. Vanderveen, L. E. Orwig, & E. Tandberg-Hanssen.* 330, 480, 95-F1 (1988)

Observations of A0535+26 with the *SMM* Satellite. *S. Sembay, R. A. Schwartz, S. R. Davies, L. E. Orwig, & B. R. Dennis.* 351, 675, 48-E1 (1990)

ORWIG, LARRY E. Evidence for Two Hard X-Ray Components in Double Power-Law Fits to the 1980 June 7 Flare. *Dean F. Smith & Larry E. Orwig.* 327, 466, 52-B8 (1988)

OSBORNE, J. P. The Discovery of the 2 Hour Modulated X-Ray Source EXO 033319–2554.2, an AM Herculis System. *J. P. Osborne, P. Giommi, L. Angelini, G. Tagliaferri, & L. Stella.* 328, L45, 74-D10 (1988)

An X-Ray Flare from a B9+ Post–T Tauri Star System in the Field of the Seyfert Galaxy III Zw 2. *G. Tagliaferri, P. Giommi, L. Angelini, J. P. Osborne, & R. Pallavicini.* 331, L113, 121-G1 (1988)

X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215–086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

OSBORNE, JULIAN. *EXOSAT* and *IUE* Observations of SW UMa during Superoutburst. *Paula Szkody, Julian Osborne, & B. J. M. Hassall.* 328, 243, 64-F1 (1988)

OSBORNE, JULIAN P. A New Soft X-Ray Mode in the AM Herculis Object E2003+225. *Julian P. Osborne, Klaus Beuermann, Philip Charles, Laura Maraschi, Koji Mukai, & Aldo Treves.* 315, L123, 49-E5 (1987)

OSCHLIES, K. On the Charge State of Anomalous Oxygen. *K. Oschlies, R. Beaujean, & W. Enge.* 345, 776, 160-D1 (1989)

OSHEROVICH, VLADIMIR. Observations of the 12.3 Micron Mg I Emission Line during a Major Solar Flare. *Drake Deming, Tilak Hewagama, Donald E. Jennings, Vladimir Osherovich, & Gunter Wiedemann.* 364, L49, 205-E7 (1990)

OSHEROVICH, VLADIMIR A. Formation of a Solar Coronal Transient with Forerunner. *Erast B. Gliner & Vladimir A. Osherovich.* 312, 412, 5-C12 (1987)

The Relationship of Sunspot Magnetic Fields to Umbral Sizes in Return Flux Theory. *Vladimir A. Osherovich & Howard A. Garcia.* 336, 468, 7-A3 (1989)

Solar Prominence Model Based on Eigenvalue Solutions. II. Filaments in the Vertical Magnetic Fields. *Vladimir A. Osherovich.* 336, 1041, 15-D6 (1989)

OSTERBROCK, D. E. NGC 1320: A Feeble, High-Ionization Seyfert 2 Galaxy. *M. M. De Robertis & D. E. Osterbrock.* 301, 98, 15-A11 (1986)

An Analysis of the Narrow-Line Profiles in Seyfert 2 Galaxies. *M. M. De Robertis & D. E. Osterbrock.* 301, 727, 23-E4 (1986)

OSTERBROCK, DONALD E. *IUE* Spectra and a Resulting Model of Seyfert 2 Galaxies. *Gary J. Ferland & Donald E. Osterbrock.* 300, 658, 10-D1 (1986)

Spectral Classification of Emission-Line Galaxies. *Sylvain Veilleux & Donald E. Osterbrock.* 63, 295, 4-G1 (1987)

The Ultraviolet and Optical Emission-Line Spectrum of III Zw 77. *Gary J. Ferland & Donald E. Osterbrock.* 318, 145, 80-E3 (1987)

Optical Spectra of Narrow Emission Line Palomar-Green Galaxies. *Donald E. Osterbrock & Richard W. Pogge.* 323, 108, 154-C4 (1987)

The Relative Number of Seyfert 2 Galaxies. I. Spectra of Emission-Line Galaxies in the Wasilewski Field. *Donald E. Osterbrock & Richard A. Shaw.* 327, 89, 48-A2 (1988)

Near-Infrared Emission-Line Spectra of the Orion Nebula, NGC 4151, and Other Seyfert Galaxies. *Donald E. Osterbrock, Richard A. Shaw, & Sylvain Veilleux.* 352, 561, 58-A7 (1990)

OSTERHELD, A. Resonant Excitation of $2p^5 3s$ and $2p^5 3p$ Levels in Fe XVII. *W. H. Goldstein, A. Osterheld, J. Oreg, & A. Bar-Shalom.* 344, L37, 140-D3 (1989)

OSTERHELD, ALBERT L. X-Ray Spectral Signatures of Photoionized Plasmas. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 350, L37, 37-B9 (1990)

OSTLIE, DALE A. A Linear Survey of the Mira Variable Star Instability Region of the Hertzsprung-Russell Diagram. *Dale A. Ostlie & Arthur N. Cox.* 311, 864, 157-C3 (1986)

OSTRIKER, J. P. Distortion of the Cosmic Background Radiation by Superconducting Strings. *J. P. Ostriker & C. Thompson.* 323, L97, 164-A9 (1987)

On the Generation of a Bubbly Universe: A Quantitative Assessment of the CfA Slice. *J. P. Ostriker & M. Strassler.* 338, 579, 41-C1 (1989)

The Stability of a Collisionless Cosmological Shell. *Simon D. M. White & J. P. Ostriker.* 349, 22, 14-C5 (1990)

Pulsar Populations and Their Evolution. *Ramesh Narayan & J. P. Ostriker.* 352, 222, 52-F7 (1990)

Dust in QSO Absorption-Line Systems. *J. P. Ostriker, M. S. Vogeley, & D. G. York.* 364, 405, 201-A5 (1990)

OSTRIKER, JEREMIAH P. The Statistics of Gravitational Lensing. III. Astrophysical Consequences of Quasar Lensing. *Jeremiah P. Ostriker & Mario Vietri.* 300, 68, 1-F4 (1986)

Evolution of the Intergalactic Medium: What Happened during the Epoch $z = 3$–10? *Satoru Ikeuchi & Jeremiah P. Ostriker.* 301, 522, 21-D6 (1986)

Generation of Microwave Background Fluctuations from Nonlinear Perturbations at the Era of Galaxy Formation. *Jeremiah P. Ostriker & Ethan T. Vishniac.* 306, L51, 93-F1 (1986)

Cross Sections for Tidal Capture Binary Formation and Stellar Merger. *Hyung Mok Lee & Jeremiah P. Ostriker.* 310, 176, 134-A3 (1986)

Evolution of *N*-Body Systems with Tidally Captured Binaries through the Core Collapse Phase. *Thomas S. Statler, Jeremiah P. Ostriker, & Haldan N. Cohn.* 316, 626, 58-G9 (1987)

The Evolution and Final Disintegration of Spherical Stellar Systems in a Steady Galactic Tidal Field. *Hyung Mok Lee & Jeremiah P. Ostriker.* 322, 123, 139-C6 (1987)

Models of the Quasar Population. I. A New Luminosity Function. *Julia Heisler & Jeremiah P. Ostriker.* 325, 103, 20-C6 (1988)

Quasar Ionization of Lyman-Alpha Clouds: The Proximity Effect, a Probe of the Ultraviolet Background at High Redshift. *Stanislaw Bajtlik, Robert C. Duncan, & Jeremiah P. Ostriker.* 327, 570, 55-A3 (1988)

Clustering and Voids in the Lyman-Alpha Forest. *Jeremiah P. Ostriker, Stanislaw Bajtlik, & Robert C. Duncan.* 327, L35, 61-A11 (1988)

The Velocity Dispersion of the Giant Molecular Clouds: A Viscous Origin. *Chanda J. Jog & Jeremiah P. Ostriker.* 328, 404, 67-D10 (1988)

Models of the Quasar Population. II. The Effects of Dust Obscuration. *Julia Heisler & Jeremiah P. Ostriker.* 332, 543, 130-C1 (1988)

On the Evolution of Globular Cluster Systems. I. Present Characteristics and Rate of Destruction in Our Galaxy. *Luis Aguilar, Piet Hut, & Jeremiah P. Ostriker.* 335, 720, 180-E1 (1988)

Superclustering in the Explosion Scenario. *David H. Weinberg, Jeremiah P. Ostriker, & Avishai Dekel.* 336, 9, 1-B9 (1989)

The Velocity Dispersion of the Giant Molecular Clouds: A Viscous Origin: Erratum. *Chanda J. Jog & Jeremiah P. Ostriker.* 337, 1035, 31-E8 (1989) (Orig. paper in 328, 404, 67-D10 (1988))

Voids in the Lyα Forest. *Robert C. Duncan, Jeremiah P. Ostriker, & Stanislaw Bajtlik.* 345, 39, 149-D12 (1989)

Superclustering in the Explosion Scenario. II. Prolate Spheroidal Shells from Superconducting Cosmic Strings. *David Borden, Jeremiah P. Ostriker, & David H. Weinberg.* 345, 607, 158-C1 (1989)

An Estimate of the Velocity Correlation Tensor: Cosmological Implications. *Edward J. Groth, Roman Juszkiewicz, & Jeremiah P. Ostriker.* 346, 558, 174-D6 (1989)

Self-consistent Spherical Accretion Shocks around Black Holes. *Arif Babul, Jeremiah P. Ostriker, & P. Mészáros.* 347, 59, 182-G1 (1989)

Spherical Accretion onto Black Holes: A New, Higher Efficiency Type of Solution with Significant Pair Production. *Myeong-Gu Park & Jeremiah P. Ostriker.* 347, 679, 191-F1 (1989)

The Mach Number of the Cosmic Flow: A Critical Test for Current Theories. *Jeremiah P. Ostriker & Yasushi Suto.* 348, 378, 7-C9 (1990)

What Produces the Ionizing Background at Large Redshift? *Jordi Miralda-Escudé & Jeremiah P. Ostriker.* 350, 1, 25-B1 (1990)

The Universe in a Box: Thermal Effects in the Standard Cold Dark Matter Scenario. *R. Y. Cen, Antony Jameson, Feng Liu, & Jeremiah P. Ostriker.* 362, L41, 181-B1 (1990)

OSWALT, TERRY D. On the Frequency of Helium-rich Degenerates in Wide Binaries. *Edward M. Sion & Terry D. Oswalt.* 326, 249, 35-A1 (1988)

Identifications and Limited Spectroscopy for Luyten Common Proper-Motion Stars with Probable White Dwarf Components. I. Pairs Brighter than 17th Magnitude. *Terry D. Oswalt, Paul M. Hintzen, & Willem J. Luyten.* 66, 391, 8-E1 (1988)

L151-81A/B: A Unique White Dwarf Binary with DB and DA Components. *Terry D. Oswalt, Paul M. Hintzen, James W. Liebert, & Edward M. Sion.* 333, L87, 152-F5 (1988)

Three Very Cool Degenerate Stars in Luyten Common Proper-Motion Binaries: Implications for the Age of the Galactic Disk. *Paul Hintzen, Terry D. Oswalt, James Liebert, & Edward M. Sion.* 346, 454, 171-F8 (1989)

OTANI, N. F. Current Sheets in the Solar Corona. *H. R. Strauss & N. F. Otani.* 326, 418, 36-G7 (1988)

OTANI, NIELS F. Current-driven Resistive Ballooning Modes in Axially Bounded Solar Flare Plasmas. *Niels F. Otani & H. R. Strauss.* 325, 468, 24-C10 (1988)

OTT, U. Discovery of *s*-Process Barium in the Murchison Meteorite. *U. Ott & F. Begemann.* 353, L57, 73-D1 (1990)

OTTENHOFF, C. H. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

OTTO, S. The Significance of Voids. *S. Otto, H. David Politzer, John Preskill, & Mark B. Wise.* 304, 62, 54-E11 (1986)

OTTUSCH, J. J. New Lines of Ethylene and a Search for Methylene in IRC +10216. *D. M. Goldhaber, A. L. Betz, & J. J. Ottusch.* 314, 356, 32-A13 (1987)

OWEN, F. N. Radio and Optical Observations of Optically Weak, Steep-Spectrum, Compact Radio Sources. *W. D. Cotton, F. N. Owen, & M. J. Mahoney.* 338, 37, 33-D8 (1989)

A Search for Motion and Flux Variations in the M87 Jet. *J. A. Biretta, F. N. Owen, & T. J. Cornwell.* 342, 128, 102-E3 (1989)

Faraday Rotation from Abell Clusters of Galaxies. *G. S. Hennessy, F. N. Owen, & J. A. Eilek.* 347, 144, 184-A1 (1989)

OWEN, FRAZER N. Multifrequency VLA Observations of the Prototypical Narrow-Angle Tail Radio Source, NGC 1265. *Christopher P. O'Dea & Frazer N. Owen.* 301, 841, 24-G4 (1986)

Astrophysical Implications of the Multifrequency VLA Observations of NGC 1265. *Christopher P. O'Dea & Frazer N. Owen.* 316, 95, 51-A11 (1987)

Narrow-Angle Tail Radio Sources and the Distribution of Galaxy Orbits in Abell Clusters. *Christopher P. O'Dea, Craig L. Sarazin, & Frazer N. Owen.* 316, 113, 51-C1 (1987)

High-Resolution, High Dynamic Range VLA Images of the M87 Jet at 2 Centimeters. *Frazer N. Owen, Philip E. Hardee, & T. J. Cornwell.* 340, 698, 77-B1 (1989)

Filaments in the Radio Lobes of M87. *Dean C. Hines, Frazer N. Owen, & Jean A. Eilek.* 347, 713, 192-B11 (1989)

VLA Observations of Wide-Angle Tailed Radio Sources. *Aileen A. O'Donoghue, Frazer N. Owen, & Jean A. Eilek.* 72, 75, 2-F9 (1990)

Long-Slit Spectroscopy of 3C 31, 3C 75, 3C 465, NGC 1265, and Cygnus A. *Frazer N. Owen, Christopher P. O'Dea, & William C. Keel.* 352, 44, 50-F1 (1990)

Detection of Large Faraday Rotation in the Inner 2 Kiloparsecs of M87. *Frazer N. Owen, Jean A. Eilek, & William C. Keel.* 362, 449, 176-B1 (1990)

OWEN, T. Monodeuterated Methane in the Outer Solar System. II. Its Detection on Uranus at 1.6 Microns. *C. de Bergh, B. L. Lutz, T. Owen, J. Brault, & J. Chauville.* 311, 501, 151-D14 (1986)

Monodeuterated Methane in the Outer Solar System. III. Its Abundance on Titan. *C. de Bergh, B. L. Lutz, T. Owen, & J. Chauville.* 329, 951, 87-E1 (1988)

Monodeuterated Methane in the Outer Solar System. IV. Its Detection and Abundance on Neptune. *C. de Bergh, B. L. Lutz, T. Owen, & J.-P. Maillard.* 355, 661, 96-G1 (1990)

OWEN, T. C. Spectroscopy of Emission Features near 3 Microns in Comet Wilson (1986l). *T. Y. Brooke, R. F. Knacke, T. C. Owen, & A. T. Tokunaga.* 336, 971, 14-E5 (1989)

OWENS, A. Gamma-Ray Observations of the Crab Region Using a Coded-Aperture Telescope. *M. L. McConnell, P. P. Dunphy, D. J. Forrest, E. L. Chupp, & A. Owens.* 321, 543, 128-A13 (1987)

Gamma-Ray Observations of Cygnus X-1 and Cygnus X-3 Using a Coded-Aperture Telescope. *M. L. McConnell, D. J. Forrest, A. Owens, P. P. Dunphy, W. T. Vestrand, & E. L. Chupp.* 343, 317, 122-B2 (1989)

OWENS, ALAN. Detection of a Weak Gamma-Ray Burst from the Direction of Ursa Major. *Alan Owens, Dipen Bhattacharya, & S. Sembay.* 352, 741, 60-B9 (1990)

OWOCKI, S. P. Instabilities in Line-driven Stellar Winds. III. Wave Propagation in the Case of Pure Line Absorption. *S. P. Owocki & G. B. Rybicki.* 309, 127, 121-D4 (1986)

Instabilities in Line-driven Stellar Winds. IV. Linear Perturbations in Three Dimensions. *G. B. Rybicki, S. P. Owocki, & J. I. Castor.* 349, 274, 17-C6 (1990)

The Steady State Solutions of Radiatively Driven Stellar Winds for a Non-Sobolev, Pure Absorption Model. *C. H. Poe, S. P. Owocki, & J. I. Castor.* 358, 199, 124-E6 (1990)

OWOCKI, STANLEY P. The Role of Nonclassical Electron Transport in the Lower Solar Transition Region. *Stanley P. Owocki & Richard C. Canfield.* 300, 420, 5-E14 (1986)

Time-dependent Models of Radiatively Driven Stellar Winds. I. Nonlinear Evolution of Instabilities for a Pure Absorption Model. *Stanley P. Owocki, John I. Castor, & George B. Rybicki.* 335, 914, 182-F9 (1988)

OYAMA, Y. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

OZEL, MEHMET E. Prospects for Exploring the Local Galaxies through the Study of Their High-Energy Gamma-Ray Emission. *Mehmet E. Ozel & Carl E. Fichtel.* 335, 135, 171-G4 (1988)

OZNOVICH, I. An *IUE* Survey of Activity in Red Giants and Supergiants. *I. Oznovich & D. M. Gibson.* 319, 383, 97-C10 (1987)

PACHECO, A. F. Introduction of Short-Range Effects in the Oppenheimer-Volkoff Equation. *M. Membrado, A. F. Pacheco, & H. Vucetich.* 348, 212, 3-E11 (1990)

PACHECO, AMALIO F. Implication of Yukawa-like Effects in a White Dwarf Structure. *Manuel C. Membrado & Amalio F. Pacheco.* 327, 726, 56-E8 (1988)

Short-Range Effects in Large White Dwarfs. *Manuel C. Membrado & Amalio F. Pacheco.* 331, 394, 110-E11 (1988)

PACHOLCZYK, A. G. Active Galactic Nuclei. I. Central Source as a Cluster of Accreting Black Holes. *A. G. Pacholczyk & W. R. Stoeger, S.J.* 303, 76, 41-G7 (1986)

Active Galactic Nuclei. II. The Acceleration of Relativistic Particles in a Cluster of Accreting Black Holes. *A. G. Pacholczyk & T. F. Stepinski.* 324, 695, 11-A1 (1988)

Active Galactic Nuclei. III. Accretion Flow in an Externally Supplied Cluster of Black Holes. *A. G. Pacholczyk, T. F. Stepinski, & W. R. Stoeger.* 343, 563, 126-C1 (1989)

PACIESAS, W. S. A Scanning Modulation Collimator Observation of the High Energy X-Ray Source in the Crab Nebula. *R. M. Pelling, W. S. Paciesas, L. E. Peterson, K. Makishima, M. Oda, Y. Ogawara, & S. Miyamoto.* 319, 416, 97-F7 (1987)

High-Resolution Observations of Gamma-Ray Line Emission from SN 1987A. *W. G. Sandie, G. H. Nakano, L. F. Chase, Jr., G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, & G. P. Lasche.* 334, L91, 169-E2 (1988)

PACINI, F. Optical and X-Ray Radiation from Fast Pulsars: Effects of Duty Cycle and Spectral Shape. *F. Pacini & M. Salvati.* 321, 447, 127-A12 (1987)

PACINI, FRANCO. X-Rays from SN 1987A: Beneath the Radioactive Layers. *Rino Bandiera, Franco Pacini, & Marco Salvati.* 344, 844, 144-F10 (1989)

PACZYŃSKI, B. Mixing and the Solar Neutrino Problem. *R. Sienkiewicz, J. N. Bahcall, & B. Paczyński.* 349, 641, 23-C1 (1990)

A Microlensing Model for QSO 2237+0305. *J. Wambsganss, B. Paczyński, & N. Katz.* 352, 407, 56-B10 (1990)

Interpretation of the Microlensing Event in QSO 2237+0305. *J. Wambsganss, B. Paczyński, & P. Schneider.* 358, L33, 133-B1 (1990)

Thermal Structure of Accreting Neutron Stars and Strange Stars. *J. Miralda-Escudé, P. Haensel, & B. Paczyński.* 362, 572, 177-G9 (1990)

PACZYŃSKI, BOHDAN. Gravitational Microlensing at Large Optical Depth. *Bohdan Paczyński.* 301, 503, 21-C1 (1986)

Models of Extended Relativistic Envelopes of Neutron Stars. *Bohdan Paczyński & Nels Anderson.* 302, 1, 28-A7 (1986)

Models of Radiation-driven Winds from General Relativistic Neutron Stars. *Bohdan Paczyński & M. Prószyński.* 302, 519, 36-C1 (1986)

Gravitational Microlensing by the Galactic Halo. *Bohdan Paczyński.* 304, 1, 54-A6 (1986)

Random Scattering Approach to Gravitational Microlensing. *Neal Katz, Steven Balbus, & Bohdan Paczyński.* 306, 2, 81-A7 (1986)

Gamma-Ray Bursters at Cosmological Distances. *Bohdan Paczyński.* 308, L43, 120-E6 (1986)

Gamma-Ray Bursts from Superconducting Cosmic Strings at Large Redshifts. *Arif Babul, Bohdan Paczyński, & David Spergel.* 316, L49, 62-A9 (1987)

Gravitational Lensing by an Ensemble of Isothermal Galaxies. *Neal Katz & Bohdan Paczyński.* 317, 11, 64-B3 (1987)

Gravitational Microlensing and Gamma-Ray Bursts. *Bohdan Paczyński.* 317, L51, 78-B1 (1987)

Model Atmospheres of Near-Eddington Limit X-Ray Bursters. *Arif Babul & Bohdan Paczyński.* 323, 582, 161-B5 (1987)

Neutrino Emission from Solar Models with a Metal-depleted Core. *Ryszard Sienkiewicz, Bohdan Paczyński, & Stephen J. Ratcliff.* 326, 392, 36-E7 (1988)

Distribution of Intensities of Gamma-Ray Bursts. *Bohdan Paczyński & Kevin Long.* 333, 694, 147-G1 (1988)

Supernovae in Luminous Arcs. *Israel Kovner & Bohdan Paczyński.* 335, L9, 177-B1 (1988)

Gamma-Ray Bursts from Cusps on Superconducting Cosmic Strings at Large Redshifts. *Bohdan Paczyński.* 335, 525, 178-C1 (1988)

Gravitational Lensing by a Smoothly Variable Surface Mass Density. *Bohdan Paczyński & Joachim Wambsganss.* 337, 581, 26-C1 (1989)

A Test of the Galactic Origin of Gamma-Ray Bursts. *Bohdan Paczyński.* 348, 485, 8-F1 (1990)

Gravitational Lensing by a Smoothly Variable Three-dimensional Mass Distribution. *Man Hoi Lee & Bohdan Paczyński.* 357, 32, 111-D11 (1990)

Super-Eddington Winds from Neutron Stars. *Bohdan Paczyński.* 363, 218, 184-G4 (1990)

A Dipole Moment of the Microwave Background as a Cosmological Effect. *Bohdan Paczyński & Tsvi Piran.* 364, 341, 200-C1 (1990)

Weak Gravitational Lensing Due to Large-Scale Structure of the Universe. *Michał Jaroszyński, Changbom Park, Bohdan Paczyński, & J. Richard Gott III.* 365, 22, 206-C10 (1990)

X-Ray Pulsar 1E 2259+586: A Merged White Dwarf with a 7 Second Rotation Period? *Bohdan Paczyński.* 365, L9, 212-B1 (1990)

PADIA, J. T. Solar Flare Neon Composition and Solar Cosmic-Ray Exposure Ages Based on Lunar Mineral Separates. *C. M. Nautiyal, J. T. Padia, M. N. Rao, & T. R. Vankatesan.* 301, 465, 18-G14 (1986)

PADIN, CLEM. Interpretation and Implications of Diameter and Differential Radius Observations of the 160 Minute Period Solar Oscillation. *Henry A. Hill, Jonathan Tash, & Clem Padin.* 304, 560, 60-A9 (1986)

PADIN, S. Radio Observations of the 1985 Outburst of RS Ophiuchi. *R. M. Hjellming, J. H. van Gorkom, E. R. Seaquist, A. R. Taylor, S. Padin, R. J. Davis, & M. F. Bode.* 305, L71, 80-D9 (1986)

Interferometric Observations of 1.4 Millimeter Continuum Sources. *D. P. Woody, S. L. Scott, N. Z. Scoville, L. G. Mundy, A. I. Sargent, S. Padin, C. G. Tinney, & C. D. Wilson.* 337, L41, 25-D5 (1989)

Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at $\gamma = 1.4$ Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z.*

Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey. 337, L45, 25-D9 (1989)

223 GHz VLBI Observations of 3C 273. *S. Padin, D. P. Woody, M. W. Hodges, A. E. E. Rogers, D. T. Emerson, P. R. Jewell, J. Lamb, A. Perfetto, & M. C. H. Wright.* 360, L11, 149-C2 (1990)

PADMANABHAN, T. Dynamical Scenarios with Unstable Neutrinos. *T. Padmanabhan & M. M. Vasanthi.* 315, 411, 45-C1 (1987)

A Note on the Volume Occupied in Phase Space by a System of Gravitationally Interacting Particles. *T. Padmanabhan.* 344, 848, 144-G1 (1989)

Antonov Instability and Gravothermal Catastrophe—Revisited. *T. Padmanabhan.* 71, 651, 45-B3 (1989)

PADOVANI, P. Eddington Ratios as a Constraint on the Activity Patterns of the Active Galactic Nuclei. *A. Cavaliere & P. Padovani.* 333, L33, 152-A10 (1988)

The Connection between Active and Normal Galaxies. *A. Cavaliere & P. Padovani.* 340, L5, 75-C11 (1989)

The Mass Function of Seyfert 1 Nuclei. *P. Padovani, R. Burg, & R. A. Edelson.* 353, 438, 69-D10 (1990)

Fanaroff-Riley I Galaxies as the Parent Population of BL Lacertae Objects. I. X-Ray Constraints. *P. Padovani & C. M. Urry.* 356, 75, 100-A5 (1990)

Star-forming Galaxies and the X-Ray Background. *R. E. Griffiths & P. Padovani.* 360, 483, 152-C11 (1990)

PADRIELLI, LUCIA. 18 Centimeter VLBI Observations of the Quasar NRAO 140 during and after a Low-Frequency Outburst. *Alan P. Marscher, John J. Broderick, Lucia Padrielli, Norbert Bartel, & Jonathan D. Romney.* 319, 456, 98-B8 (1987)

PAERELS, F. B. S. The High-Resolution Soft X-Ray Spectrum of HZ 43. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, E. H. B. M. Gronenschild, & J. Heise.* 308, 190, 110-B6 (1986)

Measurement of the EUV Spectrum of the Hot White Dwarf Feige 24. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, & J. Heise.* 309, L33, 125-E10 (1986)

Determination of Photospheric Helium Abundances for the Hot White Dwarfs LB 1663 and CD −38°10980 from *EXOSAT* Soft X-Ray Photometry. *F. B. S. Paerels, J. Heise, S. M. Kahn, & R. D. Rogers.* 322, 315, 141-C6 (1987)

The High-Resolution Photospheric Soft X-Ray Spectrum of Sirius B. *F. B. S. Paerels, J. A. M. Bleeker, A. C. Brinkman, & J. Heise.* 329, 849, 86-D1 (1988)

The High-Resolution Soft X-Ray Spectrum of HZ 43. II. Bolometric X-Ray Flux, Effective Temperature, and Radius. *J. Heise, F. B. S. Paerels, J. A. M. Bleeker, & A. C. Brinkman.* 334, 958, 167-B1 (1988)

A Soft X-Ray Survey of Hot White Dwarfs with *EXOSAT*. *F. B. S. Paerels & J. Heise.* 339, 1000, 64-B1 (1989)

EXOSAT Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)

PAGE, DANY. Strangeness, Condensation, Nucleon Superfluidity, and Cooling of Neutron Stars. *Dany Page & E. Baron.* 354, L17, 80-C1 (1990)

PAGE, LYMAN A. A Large-Scale Cosmic Microwave Background Anisotropy Measurement at Millimeter and Submillimeter Wavelengths. *Lyman A. Page, Edward S. Cheng, & Stephan S. Meyer.* 355, L1, 92-A7 (1990)

PAKULL, M. The Discovery of 3.9 Hour Periodic Dips in the X-Ray Intensity of XB 1254−690. *T. J.-L. Courvoisier, A. N. Parmar, A. Peacock, & M. Pakull.* 309, 265, 122-G4 (1986)

PAKULL, MANFRED W. The Optical Light Curve of the Low-Mass X-Ray Binary XB 1254−690. *Christian Motch, Holger Pedersen, Klaus Beuermann, Manfred W. Pakull, & Thierry J.-L. Courvoisier.* 313, 792, 25-D8 (1987)

PAKVASA, SANDIP. The Initial Neutrino Events from Supernovae as Evidence for Matter versus Anitmatter. *Alan V. Barnes, Thomas J. Weiler, & Sandip Pakvasa.* 323, L31, 158-C4 (1987)

PALAZZI, E. A Precise Measurement of the Cosmic Background Radiation at 1.32 Millimeters. *E. Palazzi, N. Mandolesi, Philippe Crane, Marc L. Kutner, J. C. Blades, & Dennis J. Hegyi.* 357, 14, 111-C3 (1990)

PALAZZI, ELIANA. Interstellar CH toward ζ Ophiuchi. *Eliana Palazzi, Nazzareno Mandolesi, & Philippe Crane.* 326, 905, 43-D9 (1988)

The Interstellar $^{12}C/^{13}C$ Ratio toward μ Normae. *Philippe Crane, David L. Lambert, & Eliana Palazzi.* 363, 192, 184-E1 (1990)

PALEOLOGOU, EFTHIMIOS V. The Effect of Ambipolar Diffusion on Magnetic Braking of Molecular Cloud Cores: An Exact, Time-dependent Solution. *Telemachos Ch. Mouschovias & Efthimios V. Paleologou.* 308, 781, 117-D13 (1986)

PALFREY, T. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

PALIWAL, D. C. Star Formation Efficiency in Clouds of Various Masses. *A. K. Pandey, D. C. Paliwal, & H. S. Mahra.* 362, 165, 171-B7 (1990)

PALLA, F. Neutral Winds from Cool Young Stars: A Solution to the Line Deficit Problem. *A. Natta, C. Giovanardi, F. Palla, & Neal J. Evans II.* 327, 817, 57-E8 (1988)

Ionization Structure and Emission of Winds from Low-Luminosity Pre–Main-Sequence Stars. *A. Natta, C. Giovanardi, & F. Palla.* 332, 921, 134-E2 (1988)

PALLA, FRANCESCO. Primordial Stellar Evolution: The Protostar Phase. *Steven W. Stahler, Francesco Palla, & E. E. Salpeter.* 302, 590, 37-A13 (1986)

Primordial Stellar Evolution: The Pre–Main-Sequence Phase. *Steven W. Stahler, Francesco Palla, & E. E. Salpeter.* 308, 697, 116-E9 (1986)

The Effects of Stimulated Star Formation on the Evolution of the Galaxy. III. The Chemical Evolution of Nonlinear Systems. *Steven N. Shore, Federico Ferrini, & Francesco Palla.* 316, 663, 59-C14 (1987)

The Birthline for Intermediate-Mass Stars. *Francesco Palla & Steven W. Stahler.* 360, L47, 156-D1 (1990)

PALLAVICINI, R. Hydrodynamic Flare Modeling: Comparison of Numerical Calculations with *SMM* Observations of the 1980 November 12 17:00 UT Flare. *G. Peres, F. Reale, S. Serio, & R. Pallavicini.* 312, 895, 12-F5 (1987)

An X-Ray Flare from a B9+ Post–T Tauri Star System in the Field of the Seyfert Galaxy III Zw 2. *G. Tagliaferri, P. Giommi, L. Angelini, J. P. Osborne, & R. Pallavicini.* 331, L113, 121-G1 (1988)

PALLAVICINI, ROBERTO. Analysis of Ultraviolet and X-Ray Observations of Three Homologous Solar Flares from *SMM*. *Chung-Chieh Cheng & Roberto Pallavicini.* 318, 459, 84-A3 (1987)

Temporal and Spatial Relationships between O V and Fe XXI Emissions in Solar Flares. *Chung-Chieh Cheng & Roberto Pallavicini.* 324, 1138, 16-A9 (1988)

PALLÉ, P. L. The 160 Minute Solar Oscillation: An Artifact? *Y. P. Elsworth, S. M. Jefferies, C. P. McLeod, R. New, P. L. Pallé, H. B. van der Raay, C. Régulo, & T. Roca Cortés.* 338, 557, 39-F7 (1989)

PALLÉ, PERE L. Global Acoustic Oscillations on α Bootis. *Juan A. Belmonte, Andrew R. Jones, Pere L. Pallé, & Teodoro Roca Cortés.* 358, 595, 131-A1 (1990)

PALMA, A. Collisional Excitation of Interstellar Water: Addendum. *A. Palma, S. Green, D. J. DeFrees, & A. D. McLean.* 70, 681, 28-A9 (1989) (Orig. paper in 68, 287, 27-C7 (1988))

PALMA, AMEDEO. Collisional Excitation of an Asymmetric Rotor, Silicon Dicarbide. *Amedeo Palma & Sheldon Green.* 316, 830, 61-B9 (1987)

Collisional Excitation of Interstellar Sulfur Dioxide. *Amedeo Palma.* 64, 565, 25-A7 (1987)

Collisional Excitation of Interstellar Waters. *Amedeo Palma, Sheldon Green, D. J. DeFrees, & A. D. McLean.* 68, 287, 27-C7 (1988)

PALMER, D. M. An Imaging Observation of SN 1987A at Gamma-Ray Energies. *W. R. Cook, D. M. Palmer, T. A. Prince, S. M. Schindler, C. H. Starr, & E. C. Stone.* 334, L87, 169-D12 (1988)

PALMER, PATRICK. The Brightness Distribution of OH around Comet Halley. *Imke de Pater, Patrick Palmer, & Lewis E. Snyder.* 304, L33, 61-C6 (1986)

The Dispersal of Dense Protostellar Material: NH_3 Hot Cores and Outflows in Sagittarius B2. *S. N. Vogel, R. Genzel, & Patrick Palmer.* 316, 243, 52-F3 (1987)

Dynamical Collapse of the W51 Star-forming Region. *Alexander Rudolph, William J. Welch, Patrick Palmer, & Berengere Dubrulle.* 363, 528, 190-F9 (1990)

PALTOGLOU, G. The Giant Branch of Omega Centauri. III. C, N, O and Heavy-Element Abundances for 15 Red Giants. *G. Paltoglou & John E. Norris.* 336, 185, 3-D5 (1989)

PALUMBO, G. G. C. *EXOSAT* and *Einstein* X-Ray Observations of the SNR 1E 1149.4−6209 in Crux: A Unified Picture? *G. F. Bignami, P. A. Caraveo, A. Goldwurm, S. Mereghetti, & G. G. C. Palumbo.* 302, 606, 37-C2 (1986)

The Most Luminous Far-Infrared Extragalactic Sources. *M. Harwit, J. R. Houck, B. T. Soifer, & G. G. C. Palumbo.* 315, 28, 40-C6 (1987)

The Autocorrelation Properties of Fluctuations in the Cosmic X-Ray Background. *M. Persic, G. De Zotti, E. A. Boldt, F. E. Marshall, L. Danese, A. Franceschini, & G. G. C. Palumbo.* 336, L47, 16-E1 (1989)

Infrared Emission from Compact Groups of Galaxies. *Paul Hickson, T. K. Menon, G. G. C. Palumbo, & M. Persic.* 341, 679, 93-F5 (1989)

Contributions of Low-Luminosity Sources to the X-Ray Background. *M. Persic, G. De Zotti, L. Danese, G. G. C. Palumbo, A. Franceschini, E. A. Boldt, & F. E. Marshall.* 344, 125, 134-E10 (1989)

Constraints on Large-Scale Clustering from the Autocorrelation Properties of the X-Ray Background. *G. De Zotti, M. Persic, A. Franceschini, L. Danese, G. G. C. Palumbo, E. A. Boldt, & F. E. Marshall.* 351, 22, 38-C10 (1990)

A Catalog of X-Ray Measurements of Selected Samples of Active Galaxies and Nuclei. *R. Della Ceca, G. G. C. Palumbo, M. Persic, E. A. Boldt, G. De Zotti, & F. E. Marshall.* 72, 471, 8-G7 (1990)

X-Ray Spectrum of the Spiral Galaxy M51 (NGC 5194). *K. Makishima, T. Ohashi, H. Kondo, G. G. C. Palumbo, & G. Trinchieri.* 365, 159, 208-B3 (1990)

PAN, FU-SHIH. Calculated Forbidden Rotational Spectra of H_3^+. *Fu-Shih Pan & Takeshi Oka.* 305, 518, 73-A1 (1986)

PAN, X. P. Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

Apparent Orbit of the Spectroscopic Binary β Arietis with the Mark III Stellar Interferometer. *X. P. Pan, M. Shao, M. M. Colavita, D. Mozurkewich, R. S. Simon, & K. J. Johnston.* 356, 641, 108-B11 (1990)

PANAGIA, N. Subluminous, Radio Emitting Type I Supernovae. *N. Panagia, R. A. Sramek, & K. W. Weiler.* 300, L55, 13-D6 (1986)

Radio Supernovae. *K. W. Weiler, R. A. Sramek, N. Panagia, J. M. van der Hulst, & M. Salvati.* 301, 790, 24-C5 (1986)

Abundances in Intermediate-Velocity Clouds toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 332, L75, 137-D5 (1988)

An Ultraviolet Spectral Atlas of Interstellar Lines toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 334, 308, 157-G1 (1988)

Narrow Ultraviolet Emission Lines from SN 1987A: Evidence for CNO Processing in the Progenitor. *C. Fransson, A. Cassatella, R. Gilmozzi, R. P. Kirshner, N. Panagia, G. Sonneborn, & W. Wamsteker.* 336, 429, 6-E1 (1989)

Properties and Evolution of Dust Grains in Planetary Nebulae. *P. Lenzuni, A. Natta, & N. Panagia.* 345, 306, 153-A1 (1989)

PANAGIA, NINO. Radio Emission from Supernovae. I. One to Twelve Year Old Supernovae. *Kurt W. Weiler, Nino Panagia, Richard A. Sramek, J. M. van der Hulst, Morton S. Roberts, & Linh Nguyen.* 336, 421, 6-D2 (1989)

Discovery of an Inner Light-Echo Ring around SN 1987A. *Howard E. Bond, Roberto Gilmozzi, Michael G. Meakes, & Nino Panagia.* 354, L49, 86-C1 (1990)

Radio Emission from Supernovae. II. SN 1986J: A Different Kind of Type II. *Kurt W. Weiler, Nino Panagia, & Richard A. Sramek.* 364, 611, 203-F13 (1990)

PANCHAPAKESAN, N. Dependence of Pulsar Characteristics on the Spacetime Metric. *V. B. Bhatia, Namrata Chopra, Bhabani Majumdar, & N. Panchapakesan.* 326, 63, 32-F2 (1988)

PANDEY, A. K. Star Formation Efficiency in Clouds of Various Masses. *A. K. Pandey, D. C. Paliwal, & H. S. Mahra.* 362, 165, 171-B7 (1990)

PANDEY, S. K. A Model for Stellar Surface Convection and Photospheric Line Asymmetries. *H. M. Antia & S. K. Pandey.* 341, 1097, 98-F10 (1989)

PANEK, MIROSŁAW. The Large-Scale Microwave Background Anisotropy in Decaying Particle Cosmology. *Mirosław Panek.* 334, 1, 154-A6 (1988)

PANEK, ROBERT J. Ultraviolet Spectrophotometry and Optical and Infrared Photometry of the Old Nova GK Persei. *Chi-Chao Wu, Robert J. Panek, Albert V. Holm, John C. Raymond, Lee W. Hartmann, & Jean H. Swank.* 339, 443, 55-D10 (1989)

PANTELAKI, IRINI. Secondary Metallicity in Analytic Models of Chemical Evolution of Galaxies. *Donald D. Clayton & Irini Pantelaki.* 307, 441, 101-D13 (1986)

PAPADOPOULOS, K. A Mechanism for Strong Shock Electron Heating in Supernova Remnants. *P. J. Cargill & K. Papadopoulos.* 329, L29, 81-C7 (1988)

PAPALIOLIOS, C. Detection of a Very Bright Source Close to the LMC Supernova SN 1987A. *P. Nisenson, C. Papaliolios, M. Karovska, & R. Noyes.* 320, L15, 114-B4 (1987)

Detection of a Very Bright Source Close to the LMC Supernova SN 1987A: Erratum. *P. Nisenson, C. Papaliolios, M. Karovska, & R. Noyes.* 324, L35, 9-C8 (1988) (Orig. paper in 320, L15, 114-B4 (1987))

Measurements of the Diameter of the Large Magellanic Cloud Supernova SN 1987A. *M. Karovska, L. Koechlin, P. Nisenson, C. Papaliolios, & C. Standley.* 340, 435, 72-E12 (1989)

PAPALIOLIOS, COSTAS. Speckle Imaging of NGC 1068 and NGC 4151 in the [O III] 5007 Å Line and Nearby Continuum. *Steven M. Ebstein, N. P. Carleton, & Costas Papaliolios.* 336, 103, 2-C4 (1989)

PAPALOIZOU, J. C. B. On the Collapse and Violent Relaxation of Protoglobular Clusters. *S. J. Aarseth, D. N. C. Lin, & J. C. B. Papaloizou.* 324, 288, 4-D2 (1988)

Axisymmetric Perturbations of Thin Gaseous Disks. I. Unstable Convective Modes and Their Consequences for the Solar Nebula. *Steven P. Ruden, J. C. B. Papaloizou, & D. N. C. Lin.* 329, 739, 85-A1 (1988)

On the Pulsational Overstability in Narrowly Confined Viscous Rings. *J. C. B. Papaloizou & D. N. C. Lin.* 331, 838, 118-B3 (1988)

Nonaxisymmetric Instabilities in Thin Self-gravitating Rings and Disks. *J. C. B. Papaloizou & D. N. C. Lin.* 344, 645, 142-D10 (1989)

Wave Propagation in Gaseous Accretion Disks. *D. N. C. Lin, J. C. B. Papaloizou, & G. J. Savonije.* 364, 326, 198-B1 (1990)

Propagation of Tidal Disturbance in Gaseous Accretion Disks. *D. N. C. Lin, J. C. B. Papaloizou, & G. J. Savonije.* 365, 748, 217-E8 (1990)

PAPALOIZOU, JOHN. On the Tidal Interaction between Protoplanets and the Primordial Solar Nebula. II. Self-Consistent Nonlinear Interaction. *D. N. C. Lin & John Papaloizou.* 307, 395, 99-D5 (1986)

On the Tidal Interaction between Protoplanets and the Protoplanetary Disk. III. Orbital Migration of Protoplanets. *D. N. C. Lin & John Papaloizou.* 309, 846, 130-E5 (1986)

PAPANASTASSIOU, D. A. Chromium Isotopic Anomalies in the Allende Meteorite. *D. A. Papanastassiou.* 308, L27, 113-G6 (1986)

The Identification of Meteorite Inclusions with Isotope Anomalies. *D. A. Papanastassiou & C. A. Brigham.* 338, L37, 40-E10 (1989)

The Presence of ^{146}Sm in the Early Solar System and Implications for Its Nucleosynthesis. *A. Prinzhofer, D. A. Papanastassiou, & G. J. Wasserburg.* 344, L81, 148-D10 (1989)

Iron Isotope Anomalies. *J. Völkening & D. A. Papanastassiou.* 347, L43, 189-E10 (1989)

Zinc Isotope Anomalies. *J. Völkening & D. A. Papanastassiou.* 358, L29, 127-D1 (1990)

PAQUETTE, C. Diffusion Coefficients for Stellar Plasmas. *C. Paquette, C. Pelletier, G. Fontaine, & G. Michaud.* 61, 177, 18-G5 (1986)

Diffusion in White Dwarfs: New Results and Comparative Study. *C. Paquette, C. Pelletier, G. Fontaine, & G. Michaud.* 61, 197, 19-A10 (1986)

PARENT, DENISE C. Reactions of C_nN^+ with Methane and the Implications for Interstellar Chemistry. *Denise C. Parent.* 347, 1183, 198-C13 (1989)

PARESCE, FRANCESCO. Broad-Band Imaging of the Beta Pictoris Circumstellar Disk. *Francesco Paresce & Christopher Burrows.* 319, L23, 100-C1 (1987)

The Structure of the Inner R Aquarii Nebula in the Light of Hα and [N II] λ6584 Emission. *Francesco Paresce, Christopher Burrows, & Keith Horne.* 329, 318, 78-E8 (1988)

The Structure of the Beta Pictoris Circumstellar Disk From Combined *IRAS* and Coronagraphic Observations. *Pawel Artymowicz, Christopher Burrows, & Francesco Paresce.* 337, 494, 23-F1 (1989)

High-Resolution Coronagraphy of the Circumstellar Environment of SN 1987A. *Francesco Paresce & Christopher Burrows.* 337, L13, 25-B6 (1989)

Dust in the Circumstellar Environment of AG Carinae: Evidence for a Bipolar and Helical Structure. *Francesco Paresce & Antonella Nota.* 341, L83, 100-B1 (1989)

Polarization and Visual Intensity of the Inner Light Echo around SN 1987A. *William B. Sparks, Francesco Paresce, & Duccio Macchetto.* 347, L65, 199-C2 (1989)

Detection of an Optical Jet from RX Puppis. *Francesco Paresce.* 357, 231, 114-A1 (1990)

PARK, CH. Prolate Galaxy Models with Thin-Tube Orbits. *C. Hunter, P. T. de Zeeuw, Ch. Park, & M. Schwarzschild.* 363, 367, 188-F1 (1990)

PARK, CHANGBOM. Topology of Microwave Background Fluctuations: Theory. *J. Richard Gott III, Changbom Park, Roman Juszkiewicz, William E. Bies, David P. Bennett, François R. Bouchet, & Albert Stebbins.* 352, 1, 50-A11 (1990)

Weak Gravitational Lensing Due to Large-Scale Structure of the Universe. *Michał Jaroszyński, Changbom Park, Bohdan Paczyński, & J. Richard Gott III.* 365, 22, 206-C10 (1990)

PARK, ELIZABETH A. The Transient Accretion Disk in the Short-Period Algol System TZ Eridani. *Ronald H. Kaitchuck & Elizabeth A. Park.* 325, 225, 21-E9 (1988)

PARK, H. S. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

PARK, MYEONG-GU. Setting Limits on q_0 from Gravitational Lensing. *J. Richard Gott III, Myeong-Gu Park, & Hyung Mok Lee.* 338, 1, 33-A9 (1989)

Spherical Accretion onto Black Holes: A New, Higher Efficiency Type of Solution with Significant Pair Production. *Myeong-Gu Park & Jeremiah P. Ostriker.* 347, 679, 191-F1 (1989)

Self-consistent Models of Spherical Accretion onto Black Holes. I. One-Temperature Solutions. *Myeong-Gu Park.* 354, 64, 74-G1 (1990)

Self-consistent Models of Spherical Accretion onto Black Holes. II. Two-Temperature Solutions with Pairs. *Myeong-Gu Park.* 354, 83, 75-A7 (1990)

PARK, SEOK JAE. The Evolution of the Central Black Hole in an Active Galactic Nucleus. I. Evolution with a Constant Mass Influx. *Seok Jae Park & Ethan T. Vishniac.* 332, 135, 124-E5 (1988)

An Axisymmetric, Nonstationary Model of the Central Engine in an Active Galactic Nucleus. I. Black Hole Electrodynamics. *Seok Jae Park & Ethan T. Vishniac.* 337, 78, 18-A7 (1989)

An Axisymmetric, Nonstationary Model of the Central Engine in an Active Galactic Nucleus. II. Accretion Disk Electrodynamics. *Seok Jae Park & Ethan T. Vishniac.* 347, 684, 191-F9 (1989)

The Evolution of the Central Black Hole in an Active Galactic Nucleus. II. Evolution with an Exponentially Decreasing Mass Influx. *Seok Jae Park & Ethan T. Vishniac.* 353, 103, 63-D1 (1990)

PARKER, E. N. Magnetic Nonequilibrium and Current Sheet Formation. *S. I. Vainshtein & E. N. Parker.* 304, 821, 65-B9 (1986)

The Dynamical Oscillation and Propulsion of Magnetic Fields in the Convective Zone of a Star. I. General Considerations. *E. N. Parker.* 312, 868, 12-D6 (1987)

Magnetic Reorientation and the Spontaneous Formation of Tangential Discontinuities in Deformed Magnetic Fields. *E. N. Parker.* 318, 876, 90-E6 (1987)

Magnetic Monopole Plasma Oscillations and the Survival of Galactic Magnetic Fields. *E. N. Parker.* 321, 349, 126-A11 (1987)

The Dynamical Oscillation and Propulsion of Magnetic Fields in the Convective Zone of a Star. II. Thermal Shadows. *E. N. Parker.* 321, 984, 135-C5 (1987)

The Dynamical Oscillation and Propulsion of Magnetic Fields in the Convective Zone of a Star. III. Accumulation of Heat and the Onset of the Reyleigh-Taylor Instability. *E. N. Parker.* 321, 1009, 135-E2 (1987)

Dynamical Oscillation and Propulsion of Magnetic Fields in the Convective Zone of a Star. IV. Eruption to the Surface. *E. N. Parker.* 325, 880, 30-B10 (1988)

Dynamical Oscillation and Propulsion of Magnetic Fields in the Convective Zone of a Star. V. Instability and Propulsion of Flux Bundles. *E. N. Parker.* 326, 395, 36-E10 (1988)

Dynamical Oscillation and Propulsion of Magnetic Fields in the Convective Zone of a Star. VI. Small Flux Bundles, Network Fields, and Ephemeral Regions. *E. N. Parker.* 326, 407, 36-F8 (1988)

Nanoflares and the Solar X-Ray Corona. *E. N. Parker.* 330, 474, 95-E9 (1988)

Intermittent Behavior of Galactic Dynamo Activities. *C. M. Ko & E. N. Parker.* 341, 828, 95-D7 (1989)

PARKER, LEONARD. Rapidly Rotating Neutron Star Models. *John L. Friedman, James R. Ipser, & Leonard Parker.* 304, 115, 55-B11 (1986)

Rapidly Rotating Neutron Star Models: Erratum. *John L. Friedman, James R. Ipser, & Leonard Parker.* 351, 705, 48-G9 (1990) (Orig. paper in 304, 115, 55-B11 (1986))

PARKER, ROBERT A. R. Spectrophotometry and Chemical Composition of the Oxygen-poor Bipolar Nebula NGC 6164–5. *Reginald J. Dufour, Robert A. R. Parker, & Karl G. Henize.* 327, 859, 58-A12 (1988)

PARKINSON, W. H. Transition Probability of the Al II 2669 Å Intersystem Line. *B. Carol Johnson, Peter L. Smith, & W. H. Parkinson.* 308, 1013, 120-B7 (1986)

PARLIER, B. A Study of $E > 4$ MeV Gamma Radiation from the Galactic Disk in the Region $-20° < l < 20°$. *J. M. Lavigne, P. Mandrou, M. Niel, B. Agrinier, E. Bonfand, & B. Parlier.* 308, 370, 112-A14 (1986)

Observation of the Vela Pulsar, PSR 0833−45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)

PARMA, P. B2 1637+29, a Massive Radio Galaxy Probing a Poor but Gas-rich Group. *H. R. de Ruiter, P. Parma, R. Fanti, & R. D. Ekers.* 329, 225, 77-E3 (1988)

Physical Properties of Jets in Low-Luminosity Radio Sources. *G. V. Bicknell, H. R. de Ruiter, R. Fanti, R. Morganti, & P. Parma.* 354, 98, 75-B9 (1990)

PARMAR, A. Bimodal Quasi-oscillatory and Spectral Behavior in Scorpius X-1. *W. Priedhorsky, G. Hasinger, W. H. G. Lewin, J. Middleditch, A. Parmar, L. Stella, & N. White.* 306, L91, 94-A10 (1986)

PARMAR, A. N. An *EXOSAT* Observation of Quiescent and Flare Coronal X-Ray Emission from Algol. *N. E. White, J. L. Culhane,*

A. N. Parmar, B. J. Kellett, S. Kahn, G. H. J. van den Oord, & J. Kuijpers. 301, 262, 16-F14 (1986)

The Evolution of the 1984 Outburst of the Transient X-Ray Source 4U 1630–47. *A. N. Parmar, L. Stella, & N. E. White.* 304, 664, 63-C8 (1986)

The Discovery of 3.8 Hour Periodic Intensity Dips and Eclipses from the Transient Low-Mass X-Ray Binary EXO 0748–676. *A. N. Parmar, N. E. White, P. Giommi, & M. Gottwald.* 308, 199, 110-C4 (1986)

The Bursting Behavior of the Transient X-Ray Burst Source EXO 0748–676: A Dependence between the X-Ray Burst Properties and the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. N. Parmar, & N. E. White.* 308, 213, 110-D4 (1986)

The Discovery of 3.9 Hour Periodic Dips in the X-Ray Intensity of XB 1254–690. *T. J.-L. Courvoisier, A. N. Parmar, A. Peacock, & M. Pakull.* 309, 265, 122-G4 (1986)

Intensity and Source State Dependence of the Quasi-periodic Oscillations in Scorpius X-1. *M. van der Klis, L. Stella, N. White, F. Jansen, & A. N. Parmar.* 316, 411, 54-E3 (1987)

The Discovery of 7 and 24–28 Hertz Quasi-periodic Oscillations in the X-Ray Flux of GX 17+2 (4U 1812–14). *L. Stella, A. N. Parmar, & N. E. White.* 321, 418, 126-F11 (1987)

The Properties of Bursts with Short Recurrence Times from the Transient X-Ray Source EXO 0748–676. *M. Gottwald, F. Haberl, A. N. Parmar, & N. E. White.* 323, 575, 161-A11 (1987)

The X-Ray Spectral Properties of Accretion Disks in X-Ray Binaries. *N. E. White, L. Stella, & A. N. Parmar.* 324, 363, 5-B7 (1988)

Quasi-periodic Oscillations in the X-Ray Flux of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, J. van Paradijs, & N. E. White.* 324, 379, 5-C9 (1988)

Time Lags in the Quasi-periodic Oscillations of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, M. van der Klis, & J. van Paradijs.* 327, L13, 53-B1 (1988)

An *EXOSAT* Observation of CTB 80. *L. Angelini, N. E. White, A. N. Parmar, A. Smith, & M. A. Stevens.* 330, L43, 96-F10 (1988)

The Transient 42 Second X-Ray Pulsar EXO 2030+375. I. The Discovery and the Luminosity Dependence of the Pulse Period Variations. *A. N. Parmar, N. E. White, L. Stella, C. Izzo, & P. Ferri.* 338, 359, 37-D6 (1989)

The Transient 42 Second X-Ray Pulsar EXO 2030+375. II. The Luminosity Dependence of the Pulse Profile. *A. N. Parmar, N. E. White, & L. Stella.* 338, 373, 37-E7 (1989)

The Discovery of 2.93 Hour Periodic Intensity Dips from X1323–619. *A. N. Parmar, M. Gottwald, M. van der Klis, & J. van Paradijs.* 338, 1024, 46-E1 (1989)

The Discovery of 0.2 Hz Quasi-periodic Oscillations in the X-Ray Flux of the Transient 42 Second Pulsar EXO 2030+374. *L. Angelini, L. Stella, & A. N. Parmar.* 346, 906, 178-D9 (1989)

X-Ray Eclipse Mapping of AR Lacertae. *N. E. White, R. A. Shafer, K. Horne, A. N. Parmar, & J. L. Culhane.* 350, 776, 35-F1 (1990)

PARMAR, P. S. Far-Infrared Continuum Emission from the Nucleus, Starburst, and Extended Spiral Arms of NGC 1068. *D. F. Lester, M. Joy, P. M. Harvey, H. B. Ellis, Jr., & P. S. Parmar.* 321, 755, 132-G1 (1987)

PARMEGGIANI, G. Deconvolution of Elliptical Nuclei of Galaxies: Application to M81. *O. Bendinelli, G. Parmeggiani, & F. Zavatti.* 308, 611, 115-E14 (1986)

Deconvolution of Elliptical Nuclei of Galaxies: Application to M81: Erratum. *O. Bendinelli, G. Parmeggiani, & F. Zavatti.* 315, 408, 44-C14 (1987) (Orig. paper in 308, 611, 115-E14 (1986))

PARNELL, T. A. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

PARRAVANO, A. A Self-regulated Star Formation Rate as a Function of Global Galactic Parameters. *A. Parravano.* 347, 812, 193-D9 (1989)

PARRAVANO, ANTONIO. Galactic Evolution with Self-regulated Star Formation: Stability of a Simple One-Zone Model. *Antonio Parravano, Patricia Rosenzweig, & Manuel Terán.* 356, 100, 100-C9 (1990)

PARSONS, SIDNEY B. HD 51956: A Supergiant in an Interacting Binary. *Sidney B. Parsons & Thomas B. Ake.* 364, L13, 199-C1 (1990)

PARTHASARATHY, S. High Efficiency of the Penrose Process of Energy Extraction from Rotating Black Holes Immersed in Electromagnetic Fields. *S. Parthasarathy, S. M. Wagh, S. V. Dhurandhar, & N. Dadhich.* 307, 38, 95-D2 (1986)

PARTRIDGE, B. A New Narrow-Line Seyfert 1 Galaxy: IRAS 1652+395. *L. Bassani, M. J. Coe, M. A. Malkan, N. Mandolesi, B. Partridge, & L. Spinoglio.* 344, 726, 143-D2 (1989)

PARTRIDGE, R. B. Radio Source Counts at 6 Centimeters to 0.1 Millijanskys. *R. B. Partridge, K. C. Hilldrup, & M. I. Ratner.* 308, 46, 108-E4 (1986)

Preliminary VLA Limits on the Sunyaev-Zel'dovich Effect in Abell 2218. *R. B. Partridge, R. A. Perley, N. Mandolesi, & F. Delpino.* 317, 112, 65-B11 (1987)

A Search for Small-Scale Structure in the Background Radiation at 6 Centimeters. *H. M. Martin & R. B. Partridge.* 324, 794, 12-B1 (1988)

New Limits on Microwave Background Anisotropy at Small Angular Scales. *Craig J. Hogan & R. B. Partridge.* 341, L29, 99-D10 (1989)

Atmospheric Emission Models: Confrontation between Observational Data and Predictions in the 2.5–300 GHz Frequency Range. *L. Danese & R. B. Partridge.* 342, 604, 108-B10 (1989)

PARTRIDGE, R. BRUCE. A Search for the Sunyaev-Zel'dovich Effect at $\lambda = 3$ Millimeters. *Simon J. E. Radford, Paul E. Boynton, Bobby L. Ulich, R. Bruce Partridge, Robert A. Schommer, Antony A. Stark, Robert W. Wilson, & Stephen S. Murray.* 300, 159, 2-F13 (1986)

6 Centimeter Radio Source Counts and Spectral Index Studies Down to 0.1 Millijansky. *R. Hank Donnelly, R. Bruce Partridge, & Rogier A. Windhorst.* 321, 94, 123-B9 (1987)

PASACHOFF, JAY M. A Search for Localized Sources of Noncosmological Deuterium near the Galactic Center. *D. A. Lubowich, K. R. Anantharamaiah, & Jay M. Pasachoff.* 345, 770, 160-C5 (1989)

PASCHMANN, GÖTZ. Particle Injection and Acceleration at Earth's Bow Shock: Comparison of Upstream and Downstream Events. *Donald C. Ellison, Eberhard Möbius, & Götz Paschmann.* 352, 376, 54-E5 (1990)

PASINETTI FRACASSINI, LAURA E. The Chromosphere of Beta Cassiopeiae. *Terry J. Teays, Edward G. Schmidt, Massimo Fracassini, & Laura E. Pasinetti Fracassini.* 343, 916, 130-E4 (1989)

PASSOT, THIERRY P. On the Generation of the Solar Magnetic Field in a Region of Weak Buoyancy. *Bernard R. Durney, David S. De Young, & Thierry P. Passot.* 362, 709, 179-E7 (1990)

PASTORIZA, M. G. *BV* Surface Photometry of Southern Galaxies. I. NGC 4507. *T. Storchi Bergmann & M. G. Pastoriza.* 304, 305, 57-C6 (1986)

Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

PASTORIZA, MIRIANI G. The Nuclear Region of NGC 7469. *Charles J. Bonatto & Miriani G. Pastoriza.* 353, 445, 69-E4 (1990)

PASTORIZA, MIRIANI GRISELDA. On the Metal Abundance of Low-Activity Galactic Nuclei. *Thaisa Storchi Bergmann & Miriani Griselda Pastoriza.* 347, 195, 184-E1 (1989)

PATRIARCHI, P. Model Atmospheres and Parameters of Central Stars of Planetary Nebulae. *P. Patriarchi, M. Perinotto, & M. Cerruti-Sola.* 345, 327, 153-B10 (1989)

PATSCHKE, R. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

PATTERSON, ALAN. Seventy-Five Hours of Coordinated Videomagnetograph Observations. *Haimin Wang, Harold Zirin, Alan Patterson, Guoxiang Ai, & Hongqi Zhang.* 343, 489, 124-B1 (1989)

PATTERSON, J. H0538+608: A Bright AM Herculis–Type X-Ray Source. *R. A. Remillard, H. V. Bradt, J. E. McClintock, J. Patterson, W. Roberts, D. A. Schwartz, & S. Tapia.* 302, L11, 35-A13 (1986)
Uncorrelated Soft and Hard X-Ray Short-Term Variations from AM Herculis. *L. Stella, K. Beuermann, & J. Patterson.* 306, 225, 83-F8 (1986)
A Hard X-Ray Source in the Nearest Molecular Cloud. *J. P. Halpern & J. Patterson.* 312, L31, 7-C2 (1987)
Einstein Observations of EF Eridani (2A 0311−227), The Textbook Example of AM Herculis–Type Systems. *K. Beuermann, L. Stella, & J. Patterson.* 316, 360, 54-A6 (1987)
On the Nature of the X-Ray Pulsar near Lynds 1457. *J. Patterson & J. P. Halpern.* 361, 173, 159-B7 (1990)
PATTERSON, JOSEPH. Magnetic Activity, Tides, and Orbital Period Changes in Close Binaries. *James H. Applegate & Joseph Patterson.* 322, L99, 152-D4 (1987)
PATUREL, G. The Malmquist Bias in the Extragalactic Distance Scale: Controversies and Misconceptions. *L. Bottinelli, L. Gouguenheim, G. Paturel, & P. Teerikorpi.* 328, 4, 62-A10 (1988)
The Extragalactic Distance Scale. II. The Unbiased Distance to the Virgo Cluster from the *B*-Band Tully-Fisher Relation. *P. Fouqué, L. Bottinelli, L. Gouguenheim, & G. Paturel.* 349, 1, 14-A10 (1990)
PAUL, A. E. Origin of the Excitation of the Galactic Center. *G. H. Rieke, M. J. Rieke, & A. E. Paul.* 336, 752, 11-F6 (1989)
PAUL, J. A. A Deep Optical Study of the Field of 1E 0630+178. *G. F. Bignami, P. A. Caraveo, J. A. Paul, L. Salotti, & L. Vigroux.* 319, 358, 97-A1 (1987)
PAULINY-TOTH, I. I. K. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)
Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)
PAULS, T. A. The Distribution and Kinematics of Ammonia in the Orion-KL Nebula: High-Sensitivity VLA Maps of the $NH_3(3,2)$ Line. *V. Migenes, K. J. Johnston, T. A. Pauls, & T. L. Wilson.* 347, 294, 185-F8 (1989)
PAUZAT, F. A Tentative Interpretation for the Difference in the Abundance Ratios HCO^+/CO and HCS^+/CS in Interstellar Space. *D. Talbi, A. P. Hickman, F. Pauzat, Y. Ellinger, & G. Berthier.* 339, 231, 52-G1 (1989)
PAVLOV, G. G. The Effect of Stimulated Scattering in Compact Sources. *P. Mészáros, G. G. Pavlov, & Yu. A. Shibanov.* 337, 426, 22-E7 (1989)
PAYLOR, VICTORIA. Fluorescence-induced Chromospheric Hα Emission from the K Dwarf Component of V471 Tauri. I. The 1983 Epoch. *Arthur Young, Andrew Skumanich, & Victoria Paylor.* 334, 397, 159-B1 (1988)
PAYNE, DAVID G. Numerical Simulations of Magnetized Jets. *Kevin R. Lind, David G. Payne, David L. Meier, & Roger D. Blandford.* 344, 89, 134-B8 (1989)
Linear Tearing Modes of a Forced Current-Sheet Equilibrium. *Paulett C. Liewer & David G. Payne.* 353, 658, 72-A13 (1990)
PAYNE, H. E. A Young Planetary Nebula with OH Molecules: NGC 6302. *H. E. Payne, J. A. Phillips, & Yervant Terzian.* 326, 368, 36-C4 (1988)
Radio Variability of the Blazar AO 0235+164. *S. L. O'Dell, B. Dennison, J. J. Broderick, D. R. Altschuler, J. J. Condon, H. E. Payne, K. J. Mitchell, H. D. Aller, M. F. Aller, & P. E. Hodge.* 326, 668, 41-A3 (1988)
Stimulated Emission of Carbon Recombination Lines from Cold Clouds in the Direction of Cassiopeia A. *H. E. Payne, K. R. Anantharamaiah, & W. C. Erickson.* 341, 890, 96-C1 (1989)
PAYNE, J. M. 84 Gigahertz Observations of Five Crab-like Supernova Remnants. *C. J. Salter, S. P. Reynolds, D. E. Hogg, J. M. Payne, & P. J. Rhodes.* 338, 171, 35-B4 (1989)
PEACOCK, A. The Discovery of 3.9 Hour Periodic Dips in the X-Ray Intensity of XB 1254−690. *T. J.-L. Courvoisier, A. N. Parmar, A. Peacock, & M. Pakull.* 309, 265, 122-G4 (1986)
EXOSAT Observations of the Tycho Supernova Remnant. *A. Smith, J. Davelaar, A. Peacock, B. G. Taylor, M. Morini, & N. R. Robba.* 325, 288, 22-C7 (1988)
EXOSAT Observations of the Cassiopeia A Supernova Remnant. *F. Jensen, A. Smith, J. A. M. Bleeker, P. A. J. de Korte, A. Peacock, & N. E. White.* 331, 949, 119-D4 (1988)
Non–Equilibrium Ionization Effects in the Supernova Remnant RCW 86. *J. J. Claas, A. Smith, J. S. Kaastra, P. A. J. de Korte, & A. Peacock.* 337, 399, 22-C6 (1989)
EXOSAT Observations of the Kepler Supernova Remnant. *A. Smith, A. Peacock, M. Arnaud, J. Ballet, R. Rothenflug, & R. Rocchia.* 347, 925, 195-A9 (1989)
PEARCE, ERIC C. Concerning the High Photospheric Velocity of the Type I Supernova 1984A near Maximum Light. *Eric C. Pearce, Stirling A. Colgate, & Albert G. Petschek.* 325, L33, 31-C9 (1988)
PEARCE, GILLIAN. The Solar-Stellar Connection: The Relationship between Flaring Rates, Flare Power, and Quiescent X-Ray Background. *Richard A. Harrison, Gillian Pearce, & Andrew Skumanich.* 332, 1058, 136-B2 (1988)
PEARLSTEIN, S. Medium-Energy Nuclear Data Libraries: A Case Study, Neutron- and Proton-induced Reactions in ^{56}Fe. *S. Pearlstein.* 346, 1049, 180-B5 (1989)
Medium-Energy Nuclear Data Libraries: A Case Study, Neutron- and Proton-induced Reactions in ^{56}Fe: Erratum. *S. Pearlstein.* 354, 387, 79-A10 (1990) (Orig. paper in 346, 1049, 180-B5 (1989))
PEARSON, DOUGLAS H. Impulsiveness and Energetics in Solar Flares with and without Type II Radio Bursts: A Comparison of Hard X-Ray Characteristics for Over 2500 Solar Flares. *Douglas H. Pearson, Robert Nelson, Gabriel Kojoian, & James Seal.* 336, 1050, 15-E1 (1989)
PEARSON, J. C. The Radio Spectrum of the C_4D Radical. *D. R. Woodward, J. C. Pearson, C. A. Gottlieb, & P. Thaddeus.* 333, L29, 144-C8 (1988)
PEARSON, T. J. 1642+690: A Superluminal Quasar. *T. J. Pearson, P. D. Barthel, C. R. Lawrence, & A. C. S. Readhead.* 300, L25, 13-B1 (1986)
0850+581: Another Superluminal Radio Source. *P. D. Barthel, T. J. Pearson, A. C. S. Readhead, & B. J. Canzian.* 310, L7, 138-A10 (1986)
The Milliarcsecond Structure of a Complete Sample of Radio Sources. II. First-Epoch Maps at 5 GHz. *T. J. Pearson & A. C. S. Readhead.* 328, 114, 63-C4 (1988)
3C 216—A New Type of Superluminal Quasar. *P. D. Barthel, T. J. Pearson, & A. C. S. Readhead.* 329, L51, 89-A9 (1988)
PEARSON, TIMOTHY J. Expanding Quasars and the Expansion of the Universe. *Marshall H. Cohen, Peter D. Barthel, Timothy J. Pearson, & J. Anton Zensus.* 329, 1, 75-A9 (1988)
PECHENICK, KAY. Hot Spots on Neutron Stars. II. The Observer's Sky. *Christ Ftaclas, Michael W. Kearney, & Kay Pechenick.* 300, 203, 3-C3 (1986)
PEDELTY, JEFFREY. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)
PEDERSEN, BRIAN B. The Prediction of Stellar Effective Temperatures from the Mixing-Length Theory of Convection. *Brian B. Pedersen, Don A. VandenBerg, & Alan W. Irwin.* 352, 279, 53-C12 (1990)
PEDERSEN, HOLGER. The Optical Light Curve of the Low-Mass X-Ray Binary XB 1254−690. *Christian Motch, Holger Pedersen, Klaus Beuermann, Manfred W. Pakull, & Thierry J.-L. Courvoisier.* 313, 792, 25-D8 (1987)
Outburst, Identification, and X-Ray Light Curve of GS 1354−64 (=MX 1353−64?, Centaurus X-2?). *Shunji Kitamoto, Hiroshi Tsunemi, Holger Pedersen, Sergio A. Ilovaisky, & Michiel van der Klis.* 361, 590, 165-D3 (1990)
PEDICHINI, F. A Short-Wavelength Measurement of the Cosmic Background Radiation Anisotropy. *P. de Bernardis, L. Amicone,*

A. De Luca, M. De Petris, M. Epifani, M. Gervasi, G. Guarini, S. Masi, F. Melchiorri, V. Natale, A. Boscaleri, G. Natali, & F. Pedichini. 360, L31, 156-B1 (1990)

PEDLAR, A. Radio Lobes and [O III] Profile Substructure in Seyfert Galaxies. *M. Whittle, A. Pedlar, E. J. A. Meurs, S. W. Unger, D. J. Axon, & M. J. Ward.* 326, 125, 33-D8 (1988)

Radio Studies of the Galactic Center. I. The Sagittarius A Complex. *A. Pedlar, K. R. Anantharamaiah, R. D. Ekers, W. M. Goss, J. H. van Gorkom, U. J. Schwarz, & Jun-hui Zhao.* 342, 769, 112-A1 (1989)

Extended Neutral Hydrogen Emission in the NGC 5903/5898 Binary Elliptical System: Evidence for a Double-Galaxy Accretion Event. *P. N. Appleton, A. Pedlar, & A. Wilkinson.* 357, 426, 117-G9 (1990)

PEEBLES, P. J. E. The Shane-Wirtanen Counts: Plate Correction Factors and Correlation Functions. *Edward J. Groth & P. J. E. Peebles.* 310, 499, 139-C1 (1986)

The Shane-Wirtanen Counts: Observer and Time-dependent Effects. *Edward J. Groth & P. J. E. Peebles.* 310, 507, 139-C9 (1986)

Cosmic Background Temperature Anisotropy in a Minimal Isocurvature Model for Galaxy Formation. *P. J. E. Peebles.* 315, L73, 49-A11 (1987)

A Fluid Model for the Evolution of Large-Scale Structure. *P. J. E. Peebles.* 317, 576, 72-D8 (1987)

The Local Extragalactic Velocity Field, the Local Mean Mass Density, and Biased Galaxy Formation. *M. E. Brown & P. J. E. Peebles.* 317, 588, 72-E6 (1987)

Cosmology with a Time-Variable Cosmological "Constant." *P. J. E. Peebles & Bharat Ratra.* 325, L17, 31-B8 (1988)

The Local Extragalactic Velocity Field as a Test of the Explosion and Gravitational Instability Pictures. *P. J. E. Peebles.* 332, 17, 123-B1 (1988)

Tracing Galaxy Orbits Back in Time. *P. J. E. Peebles.* 344, L53, 148-B5 (1989)

A Model for the Formation of the Local Group. *P. J. E. Peebles, A. L. Melott, M. R. Holmes, & L. R. Jiang.* 345, 108, 150-D1 (1989)

The Masses of Rich Clusters of Galaxies as a Test of the Biased Cold Dark Matter Theory. *P. J. E. Peebles, R. A. Daly, & R. Juszkiewicz.* 347, 563, 190-C1 (1989)

The Gravitational Instability Picture and the Formation of the Local Group. *P. J. E. Peebles.* 362, 1, 169-B1 (1990)

Previrialization. *P. J. E. Peebles.* 365, 27, 206-D1 (1990)

PEI, YICHUAN C. Limits on Dust in Damped Lyman-Alpha Systems and the Obscuration of Quasars. *S. Michael Fall & Yichuan C. Pei.* 337, 7, 17-B1 (1989)

Detection of Dust in Damped Lyman-Alpha Systems. *S. Michael Fall, Yichuan C. Pei, & Richard G. McMahon.* 341, L5, 91-A10 (1989)

PEIMBERT, M. Physical Conditions of H II Regions in M101 and the Pregalactic Helium Abundance. *S. Torres-Peimbert, M. Peimbert, & J. Fierro.* 345, 186, 151-D4 (1989)

PELAT, D. A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V. Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)

PELAT, DIDIER. Recurrent Outbursts in the Broad-Line Region of NGC 1566. *Danielle Alloin, Didier Pelat, M. M. Phillips, R. A. E. Fosbury, & K. Freeman.* 308, 23, 108-C2 (1986)

PELLAT, R. On the Closure of the Hierarchy of Galaxy Correlation Function in Phase Space. *D. Hansel, F. R. Bouchet, R. Pellat, & A. Ramani.* 310, 23, 132-C5 (1986)

On the Antonov Criterion for Gravothermal Instability. *J. F. Luciani & R. Pellat.* 317, 241, 66-E8 (1987)

Nonlinear Coupling of Galactic Spiral Modes. *M. Tagger, J.-F. Sygnet, E. Athanassoula, & R. Pellat.* 318, L43, 92-B4 (1987)

Bars and Barred Spirals: Linear Theory Revisited. *M. Tagger, J.-F. Sygnet, & R. Pellat.* 337, L9, 25-B1 (1989)

Spiral Waves and Instability in Magnetized Astrophysical Disks. *M. Tagger, R. N. Henriksen, J.-F. Sygnet, & R. Pellat.* 353, 654, 72-A8 (1990)

Collisionless Formation of Filaments in an Expanding Universe. *J.-M. Alimi, F. R. Bouchet, R. Pellat, J.-F. Sygnet, & F. Moutarde.* 354, 3, 74-B4 (1990)

PELLEGRINI, P. S. The Southern Sky Redshift Survey. *L. Nicolaci da Costa, P. S. Pellegrini, W. L. W. Sargent, J. Tonry, M. Davis, A. Meiksin, David W. Latham, J. W. Menzies, & I. A. Coulson.* 327, 544, 54-F1 (1988)

Voids in the Southern Galactic Cap. *P. S. Pellegrini, L. N. da Costa, & R. R. de Carvalho.* 339, 595, 59-C1 (1989)

PELLEGRINI, PAULO S. First Results from a Deeper Survey of a Southern Redshift Slice. *L. Nicolaci da Costa, Paulo S. Pellegrini, C. Willmer, & David W. Latham.* 344, 20, 133-C3 (1989)

On the Statistical Properties of the Galaxy Distribution. *Paulo S. Pellegrini, C. N. A. Willmer, L. Nicolaci da Costa, & B. X. Santiago.* 350, 95, 26-B9 (1990)

Peculiar Velocity of the Local Group from Nearby Redshift Surveys. *Paulo S. Pellegrini & L. Nicolaci da Costa.* 357, 408, 117-F3 (1990)

PELLEGRINI, SILVIA. X-Ray Evolution of Model Elliptical Galaxies. *Annibale D'Ercole, Alvio Renzini, Luca Ciotti, & Silvia Pellegrini.* 341, L9, 91-B1 (1989)

PELLETIER, C. Diffusion Coefficients for Stellar Plasmas. *C. Paquette, C. Pelletier, G. Fontaine, & G. Michaud.* 61, 177, 18-G5 (1986)

Diffusion in White Dwarfs: New Results and Comparative Study. *C. Paquette, C. Pelletier, G. Fontaine, & G. Michaud.* 61, 197, 19-A10 (1986)

Carbon Pollution in Helium-rich White Dwarf Atmospheres: Time-dependent Calculations of the Dredge-up Process. *C. Pelletier, G. Fontaine, F. Wesemael, G. Michaud, & G. Wegner.* 307, 242, 97-F4 (1986)

The Presence of Helium in Hot DA White Dwarfs: The Role of Radiative Levitation and the Case for Stratified Atmospheres. *S. Vennes, C. Pelletier, G. Fontaine, & F. Wesemael.* 331, 876, 118-E2 (1988)

PELLING, R. M. A Scanning Modulation Collimator Observation of the High Energy X-Ray Source in the Crab Nebula. *R. M. Pelling, W. S. Paciesas, L. E. Peterson, K. Makishima, M. Oda, Y. Ogawara, & S. Miyamoto.* 319, 416, 97-F7 (1987)

PENCE, W. D. Spectrophotometry of Shell Galaxies. *W. D. Pence.* 310, 597, 140-D1 (1986)

Detailed Study of the Barred Spiral Galaxy NGC 4027. II. Internal Kinematics. *W. D. Pence, K. Taylor, K. C. Freeman, G. de Vaucouleurs, & P. Atherton.* 326, 564, 39-F6 (1988)

Photometry and Gas Kinematics of the Spiral Galaxy NGC 1566. *W. D. Pence, K. Taylor, & P. Atherton.* 357, 415, 117-F11 (1990)

PENDLETON, Y. J. Studies of Dust Grain Properties in Infrared Reflection Nebulae. *Y. J. Pendleton, A. G. G. M. Tielens, & M. W. Werner.* 349, 107, 15-C7 (1990)

PENDLETON, YVONNE. Infrared Reflection Nebulae in Orion Molecular Cloud 2. *Yvonne Pendleton, M. W. Werner, R. Capps, & D. Lester.* 311, 360, 150-A13 (1986)

PENG, R.-S. Milliarcsecond Observations of 12 GHz Methanol Masers. *W. H. McCutcheon, K. J. Wellington, R. P. Norris, J. L. Caswell, M. J. Kesteven, J. E. Reynolds, & R.-S. Peng.* 333, L79, 152-E11 (1988)

PENN, MATTHEW J. Hα Spectra of Dynamic Chromospheric Processes in Five Well-observed X-Ray Flares. *Richard C. Canfield, Alan L. Kiplinger, Matthew J. Penn, & Jean-Pierre Wülser.* 363, 318, 186-B1 (1990)

PENNING, WILLIAM R. Circular Polarization in the DQ Herculis Binary 3A 0729+103. *William R. Penning, Gary D. Schmidt, & James Liebert.* 301, 881, 24-C8 (1986)

PENNINX, W. *EXOSAT* Observations of 4U/MXB 1636–53: On the Relation between the Amount of Accreted Fuel and the Strength of an X-Ray Burst. *W. H. G. Lewin, W. Penninx, J. van Paradijs, E. Damen, M. Sztajno, J. Trümper, & M. van der Klis.* 319, 893, 104-F9 (1987)

Multipeaked X-Ray Bursts from 4U/MXB 1636–53: Evidence against Burst-induced Accretion Disk Coronae. *W. Penninx, J. van Paradijs, & W. H. G. Lewin.* 321, L67, 129-G4 (1987)

Ginga Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

Correlation of X-Ray Burst Properties with Source State in the "Atoll" Source 4U/MXB 1636–53. *M. van der Klis, G. Hasinger,*

E. Damen, W. Penninx, J. van Paradijs, & W. H. G. Lewin. 360, L19, 149-D1 (1990)

Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)

PENNYPACKER, C. R. Optical Color, Polarimetric, and Timing Measurements of the 50 Millisecond Large Magellanic Cloud Pulsar, PSR 0540–69. *J. Middleditch, C. R. Pennypacker, & M. S. Burns.* 315, 142, 41-E8 (1987)

Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

PENPRASE, B. E. On the Nearest Molecular Clouds. II. MBM 12 and 16. *L. M. Hobbs, L. Blitz, B. E. Penprase, L. Magnani, & D. E. Welty.* 327, 356, 50-G10 (1988)

On the Nearest Molecular Clouds. III. MBM 40, 53, 54, and 55. *D. E. Welty, L. M. Hobbs, L. Blitz, & B. E. Penprase.* 346, 232, 169-A8 (1989)

Optical Spectroscopy of the High-Latitude Cloud Lynds 1569. *B. E. Penprase, J. C. Blades, A. C. Danks, & P. Crane.* 365, 241, 209-B7 (1990)

PENROD, G. DONALD. Doppler Images of Rotating Stars Using Maximum Entropy Image Reconstruction. *Steven S. Vogt, G. Donald Penrod, & Artie P. Hatzes.* 321, 496, 127-E5 (1987)

Doppler Imaging of Abundance Features on Ap Stars: The Si II Distribution on γ^2 Arietis. *Artie P. Hatzes, G. Donald Penrod, & Steven S. Vogt.* 341, 456, 89-E6 (1989)

SN 1961V: An Extragalactic Eta Carinae Analog? *Robert W. Goodrich, Guy S. Stringfellow, G. Donald Penrod, & Alexei V. Filippenko.* 342, 908, 113-E3 (1989)

PENSTON, M. V. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V. Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)

PENZIAS, ARNO A. Molecules in Galaxies. III. The Virgo Cluster. *Antony A. Stark, G. R. Knapp, John Bally, Robert W. Wilson, Arno A. Penzias, & Harrison E. Rowe.* 310, 660, 141-B8 (1986)

$^{12}C/^{13}C$ Isotope Ratio across the Galaxy from Observations of $^{13}C^{18}O$ in Molecular Clouds. *William D. Langer & Arno A. Penzias.* 357, 477, 118-E1 (1990)

PERAIAH, A. Aberration and Advection Effects in a Plane-parallel Medium in Motion. *A. Peraiah.* 317, 271, 66-G10 (1987)

Effect of the Time Spent by the Photon in the Absorbed State on the Time-dependent Transfer of Radiation. *D. Mohan Rao, K. E. Rangarajan, & A. Peraiah.* 358, 622, 131-C3 (1990)

PERAULT, M. Diffuse Infrared Emission from the Galaxy. I. Solar Neighborhood. *F. Boulanger & M. Perault.* 330, 964, 103-B2 (1988)

Small Grains and *IRAS* Colors. *F. Boulanger, C. Beichman, F. X. Désert, G. Helou, M. Pérault, & C. Ryter.* 332, 328, 126-F10 (1988)

PERCY, JOHN R. The Nonradial Oscillations of ε Persei. II. Nonlinear Characteristics. *Myron A. Smith, Alexander W. Fullerton, & John R. Percy.* 320, 768, 118-B10 (1987)

PERELMUTER, JEAN-MARC. The Surface Brightness Test for the Expansion of the Universe. I. Properties of Petrosian Metric Diameters. *Allan Sandage & Jean-Marc Perelmuter.* 350, 481, 32-C1 (1990)

The Surface Brightness Test for the Expansion of the Universe. II. Radii, Surface Brightness, and Absolute Magnitude Correlations for Nearby E Galaxies. *Allan Sandage & Jean-Marc Perelmuter.* 361, 1, 157-B1 (1990)

PERES, G. Hydrodynamic Flare Modeling: Comparison of Numerical Calculations with *SMM* Observations of the 1980 November 12 17:00 UT Flare. *G. Peres, F. Reale, S. Serio, & R. Pallavicini.* 312, 895, 12-F5 (1987)

Simulations of the Ca XIX Spectral Emission from a Flaring Solar Cronal Loop. I. Thermal Case. *E. Antonucci, M. A. Dodero, G. Peres, S. Serio, & R. Rosner.* 322, 522, 143-F1 (1987)

Morphology and Spectral Characteristics of the X-Ray Emission of M33. *G. Trinchieri, G. Fabbiano, & G. Peres.* 325, 531, 26-C11 (1988)

Hydrodynamic Modeling of an X-Ray Flare on Proxima Centauri Observed by the *Einstein* Telescope. *F. Reale, G. Peres, S. Serio, R. Rosner, & J. H. M. M. Schmitt.* 328, 256, 64-G1 (1988)

Morphology and Spectral Characteristics of the X-Ray Emission of M33: Erratum. *G. Trinchieri, G. Fabbiano, & G. Peres.* 329, 1037, 88-D10 (1988) (Orig. paper in 325, 531, 26-C11 (1988))

Time Variability of the X-Ray Sources in M33. *G. Peres, F. Reale, A. Collura, & G. Fabbiano.* 336, 140, 2-F11 (1989)

Two Variable X-Ray Sources in M31. *A. Collura, F. Reale, & G. Peres.* 356, 119, 100-E3 (1990)

PÉREZ-FOURNON, I. CCD Photometry of the M87 Jet. *I. Pérez-Fournon, L. Colina, J. I. González-Serrano, & P. L. Biermann.* 329, L81, 89-C7 (1988)

A Stellar Disk Perpendicular to the Radio Jet in B2 0034+25. *J. I. González-Serrano & I. Pérez-Fournon.* 338, L29, 40-E1 (1989)

Optical Observations of Galaxies Containing Radio Jets: A Catalog of Sources with Redshift Smaller than 0.15. *L. Colina & I. Pérez-Fournon.* 72, 41, 1-F9 (1990)

Interaction versus Radio Source Generation: The Properties of Radio Jet Parent Galaxies. *L. Colina & I. Pérez-Fournon.* 349, 45, 14-E6 (1990)

PÉREZ-FOURNON, ISMAEL. The Extended Narrow-Line Region in NGC 4151. *Ismael Pérez-Fournon & Andrew S. Wilson.* 356, 456, 105-G13 (1990)

Accretion Tori and Cones of Ionizing Radiation in Seyfert Galaxies. *José A. Acosta-Pulido, Ismael Pérez-Fournon, Massimo Calvani, & Andrew S. Wilson.* 365, 119, 207-E1 (1990)

PERFETTO, A. 223 GHz VLBI Observations of 3C 273. *S. Padin, D. P. Woody, M. W. Hodges, A. E. E. Rogers, D. T. Emerson, P. R. Jewell, J. Lamb, A. Perfetto, & M. C. H. Wright.* 360, L11, 149-C2 (1990)

PERINOTTO, M. The "SEI" Method for Accurate and Efficient Calculations of Line Profiles in Spherically Symmetric Stellar Winds. *H. J. G. L. M. Lamers, M. Cerruti-Sola, & M. Perinotto.* 314, 726, 37-E6 (1987)

Fast Winds from the Central Stars of NGC 6543 and NGC 6826. *M. Perinotto, M. Cerruti-Sola, & H. J. G. L. M. Lamers.* 337, 382, 22-B1 (1989)

Model Atmospheres and Parameters of Central Stars of Planetary Nebulae. *P. Patriarchi, M. Perinotto, & M. Cerruti-Sola.* 345, 327, 153-B10 (1989)

Fast Winds in Central Stars of Some Planetary Nebulae. *M. Cerruti-Sola & M. Perinotto.* 345, 339, 153-C12 (1989)

PERKO, J. S. The Charge State of the Anomalous Cosmic-Ray Component. *F. B. McDonald, N. Lal, J. S. Perko, T. T. von Rosenvinge, & W. R. Webber.* 333, L109, 153-A1 (1988)

PERL, M. Theoretical Model of Red Variables in Globular Clusters. *M. Perl & Y. Tuchman.* 360, 554, 153-B5 (1990)

PERLEY, R. Discovery of a Probable Binary Quasar. *S. Djorgovski, R. Perley, G. Meylan, & P. McCarthy.* 321, L17, 129-C6 (1987)

PERLEY, R. A. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

The Faraday Rotation of Cygnus A: Magnetic Fields in Cluster Gas. *J. W. Dreher, C. L. Carilli, & R. A. Perley.* 316, 611, 58-F7 (1987)

Preliminary VLA Limits on the Sunyaev-Zel'dovich Effect in Abell 2218. *R. B. Partridge, R. A. Perley, N. Mandolesi, & F. Delpino.* 317, 112, 65-B11 (1987)

Discovery of the Bow Shock of Cygnus A. *C. L. Carilli, R. A. Perley, & J. W. Dreher.* 334, L73, 169-C9 (1988)

Radio Observations of a Candidate Cosmic String Gravitational Lens. *J. N. Hewitt, R. A. Perley, E. L. Turner, & E. M. Hu.* 356, 57, 99-F10 (1990)

VLA Observations of the Radio Galaxy Hydra A (3C 218). *G. B. Taylor, R. A. Perley, M. Inoue, T. Kato, H. Tabara, & K. Aizu.* 360, 41, 145-E5 (1990)

A Catalog of Small-Diameter Radio Sources in the Galactic Plane. *S. Zoonematkermani, D. J. Helfand, R. H. Becker, R. L. White, & R. A. Perley.* 74, 181, 32-E11 (1990)

PERLMUTTER, S. Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

PERNIC, R. Far-Infrared and Submillimeter Photometric Mapping of Spiral Galaxies in the Virgo Cluster. *A. A. Stark, J. A. Davidson, S. Platt, D. A. Harper, R. Pernic, R. Loewenstein, G. Engargiola, & S. Casey.* 337, 650, 27-B1 (1989)

PEROLA, G. C. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V. Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)

An Exceptional Change in the X-Ray Flux and Spectrum of the Seyfert 1 Galaxy E1615+061. *L. Piro, E. Massaro, G. C. Perola, & D. Molteni.* 325, L25, 31-C1 (1988)

Short Time Scale Variability of the BL Lacertae Object OJ 287 in the Near-Infrared. *D. Lorenzetti, E. Massaro, G. C. Perola, & L. Spinoglio.* 71, 175, 37-B1 (1989)

Small-Amplitude Coherent Signals in the X-Ray Emission of NGC 4151. *F. Fiore, E. Massaro, G. C. Perola, & L. Piro.* 347, 171, 183-C1 (1989)

PEROLA, GIUSEPPE C. A Cooling Flow in a High-Redshift, X-Ray–selected Cluster of Galaxies. *Roberto Nesci, Isabella M. Gioia, Tommaso Maccacaro, Simon L. Morris, Giuseppe C. Perola, Rudolph E. Schild, & Anna Wolter.* 344, 104, 134-C11 (1989)

PEROTTI, F. Hard X-Ray Observations of Cygnus X-1 with the MISO Telescope. *F. Perotti, A. Della Ventura, G. Villa, L. Bassani, R. C. Butler, G. Di Cocco, R. E. Baker, A. J. Dean, & C. G. Hanson.* 300, 297, 4-C12 (1986)

A Broad-Band Contemporaneous Study of the Seyfert Galaxy NGC 4151. *L. Bassani, R. C. Butler, G. Di Cocco, A. Della Ventura, F. Perotti, G. Villa, R. E. Baker, A. J. Dean, & T. J. Lee.* 311, 623, 154-F1 (1986)

Gamma-Ray Observations of Cygnus X-1. *L. Bassani, A. J. Dean, G. Di Cocco, F. Perotti, & J. B. Stephen.* 343, 313, 122-A10 (1989)

Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)

Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)

PERRIER, C. On the Binary Nature of Van Biesbroeck 8. *C. Perrier & J.-M. Mariotti.* 312, L27, 7-B12 (1987)

Structure of Scintillations in Neptune's Occultation Shadow. *W. B. Hubbard, Emmanuel Lellouch, Bruno Sicardy, André Brahic, Faith Vilas, Patrice Bouchet, Robert A. McLaren, & C. Perrier.* 325, 490, 24-E6 (1988)

PERRIN, J.-M. On the Validity of Effective-Medium Theories in the Case of Light Extinction by Inhomogeneous Dust Particles. *J.-M. Perrin & P. L. Lamy.* 364, 146, 195-G4 (1990)

PERRY, JUDITH J. The "Jet" Rotation Measure Distribution and the Optical Absorption System near the $z = 1.953$ Quasar 3C 191. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 355, L31, 98-C1 (1990)

3C 191 Revisited: Circumquasar Shells and Radio Jets. *Judith J. Perry & J. E. Dyson.* 361, 362, 162-F1 (1990)

PERRYMAN, M. A. C. The Quasar Pair Tololo 1037–27 and 1038–27: Evidence for Correlated Absorption Megaparsec Scales. *P. Jakobsen, M. A. C. Perryman, M. H. Ulrich, F. Macchetto, & S. di Serego Alighieri.* 303, L27, 53-B6 (1986)

High-Resolution Imaging of the Double QSO 2345+007: Evidence for Subcomponents. *J.-L. Nieto, S. Roques, A. Llebaria, Ch. Vanderriest, G. Lelièvre, S. di Serego Alighieri, F. D. Macchetto, & M. A. C. Perryman.* 325, 644, 27-E8 (1988)

Observations of Four Faint Quasars Surrounding the Tololo 1037–271/1038–272 Quasar Pair. *Peter Jakobsen, M. A. C. Perryman, & Stefano Christiani.* 326, 710, 41-D7 (1988)

Near-Ultraviolet Emission from 3C 66B and Its Jet. *D. Fraix-Burnet, J.-L. Nieto, G. Lelièvre, F. D. Macchetto, M. A. C. Perryman, & S. di Serego Alighieri.* 336, 121, 2-E1 (1989)

The Structure and Ionization of the Extended Emission-Line Filaments Surrounding the QSO MR 2251–178. *F. Macchetto, L. Colina, D. Golombek, M. A. C. Perryman, & S. di Serego Alighieri.* 356, 389, 105-A13 (1990)

PERSIC, M. The Autocorrelation Properties of Fluctuations in the Cosmic X-Ray Background. *M. Persic, G. De Zotti, E. A. Boldt, F. E. Marshall, L. Danese, A. Franceschini, & G. G. C. Palumbo.* 336, L47, 16-E1 (1989)

Infrared Emission from Compact Groups of Galaxies. *Paul Hickson, T. K. Menon, G. G. C. Palumbo, & M. Persic.* 341, 679, 93-F5 (1989)

Contributions of Low-Luminosity Sources to the X-Ray Background. *M. Persic, G. De Zotti, L. Danese, G. G. C. Palumbo, A. Franceschini, E. A. Boldt, & F. E. Marshall.* 344, 125, 134-E10 (1989)

Constraints on Large-Scale Clustering from the Autocorrelation Properties of the X-Ray Background. *G. De Zotti, M. Persic, A. Franceschini, L. Danese, G. G. C. Palumbo, E. A. Boldt, & F. E. Marshall.* 351, 22, 38-C10 (1990)

A Catalog of X-Ray Measurements of Selected Samples of Active Galaxies and Nuclei. *R. Della Ceca, G. G. C. Palumbo, M. Persic, E. A. Boldt, G. De Zotti, & F. E. Marshall.* 72, 471, 8-G7 (1990)

X-Ray Study of Superclusters. *M. Persic, K. Jahoda, Y. Rephaeli, E. Boldt, F. E. Marshall, R. F. Mushotzky, & G. Rawley.* 364, 1, 194-A12 (1990)

PERSIC, MASSIMO. A Bound on X-Ray Emission from the Intrasupercluster Medium. *Massimo Persic, Yoel Rephaeli, & Elihu Boldt.* 327, L1, 53-A4 (1988)

Dark Matter in Spiral Galaxies. *Massimo Persic & Paolo Salucci.* 355, 44, 87-E5 (1990)

Rotating Disk Galaxies: Yet Another Case for Dark Matter. *Massimo Persic & Paolo Salucci.* 356, 83, 100-B1 (1990)

Statistics of Matter Distribution from Halo Dynamics. *Silvio A. Bonometto, Stefano Borgani, Massimo Persic, & Paolo Salucci.* 356, 350, 104-E12 (1990)

PERSINGER, TIMOTHY. A Study of Upgren 1. *George Gatewood, Joost Kiewiet de Jonge, Michael Castelaz, Inwoo Han, Timothy Persinger, James Prosser, Thomas Reiland, & John Stein.* 332, 917, 134-D12 (1988)

A Map-based Determination of the Nature of Beta Delphini. *George Gatewood, Michael Castelaz, Timothy Persinger, John Stein, Pierre Demarque, Sabatino Sofia, & Bruce Stephenson.* 342, 1085, 115-E7 (1989)

MAP–based Trigonometric Parallaxes of Open Clusters: The Pleiades. *George Gatewood, Michael Castelaz, Inwoo Han, Timothy Persinger, John Stein, Bruce Stephenson, & William Tangren.* 364, 114, 195-D5 (1990)

PERSSON, CAROL J. LONSDALE. On the Origin of the 40–120 Micron Emission of Galaxy Disks: A Comparison with Hα Fluxes. *Carol J. Lonsdale Persson & George Helou.* 314, 513, 35-B8 (1987)

PERSSON, S. E. Comparison of 2.1 and 3.8 Micron Line Profiles of Shocked H_2 in the Orion Molecular Cloud. *T. R. Geballe, S. E. Persson, Theodore Simon, Carol J. Lonsdale, & P. J. McGregor.* 302, 693, 38-C1 (1986)

The Luminosity Function and Space Density of the Most Luminous Galaxies in the *IRAS* Survey. *B. T. Soifer, D. B. Sanders, G. Neugebauer, G. E. Danielson, Carol J. Lonsdale, B. F. Madore, & S. E. Persson.* 303, L41, 53-C5 (1986)

Images of Star-forming Regions. I. Optical and Radio Morphology of the Bipolar Outflow Source GL 490. *Bel Campbell, S. E. Persson, & Peter J. McGregor.* 305, 336, 70-F14 (1986)

Emission from CO Band Heads in Young Stellar Objects. *T. R. Geballe & S. E. Persson.* 312, 297, 4-B8 (1987)

High Spatial and Spectral Resolution Observations of the Optical Counterparts of GL 490 and S106/IRS 3. *S. E. Persson, Peter J. McGregor, & Bel Campbell.* 326, 339, 36-A1 (1988)

Calcium Infrared Triplet Emission in Active Galactic Nuclei. *S. E. Persson.* 330, 751, 100-F9 (1988)

High-Resolution Spectra of the Luminous Young Stellar Object V645 Cygni. *F. Hamann & S. E. Persson.* 339, 1078, 65-A7 (1989)

The Similar Emission-Line Spectra of the Young Star LkHα 101 and the Hypergiant MWC 300. *Fred Hamann & S. E. Persson.* 71, 931, 49-B1 (1989)

Implications of Ca II Emission for Physical Conditions in the Broad-Line Region of Active Galactic Nuclei. *G. J. Ferland & S. E. Persson.* 347, 656, 191-D1 (1989)

PESCE, JOSEPH E. The Ultraviolet Spectrum of Noncoronal Late-Type Stars: The Gamma Crucis (M3.4 III) Reference Spectrum. *Kenneth G. Carpenter, Joseph E. Pesce, Robert E. Stencel, Alexander Brown, Sveneric Johansson, & Robert F. Wing.* 68, 345, 28-B7 (1988)

PESCH, PETER. The Case Low-Dispersion Northern Sky Survey. III. *Peter Pesch & N. Sanduleak.* 60, 543, 8-B4 (1986)

The Case Low-Dispersion Northern Sky Survey. IV. Galaxies in the Bootes Void Region. *N. Sanduleak & Peter Pesch.* 63, 809, 13-F6 (1987)

The Case Low-Dispersion Northern Sky Survey. V. *Peter Pesch & N. Sanduleak.* 66, 297, 6-A1 (1988)

The Case Low-Dispersion Northern Sky Survey. VII. Late-Type Stars. *N. Sanduleak & Peter Pesch.* 66, 387, 8-D1 (1988)

The Case Low-Dispersion Northern Sky Survey. VIII. A Region Centered in Southern Bootes. *Peter Pesch & N. Sanduleak.* 70, 163, 19-C3 (1989)

The Case Low-Dispersion Northern Sky Survey. IX. A Region Centered in Northern Bootes. *N. Sanduleak & Peter Pesch.* 70, 173, 19-E1 (1989)

The Case Low-Dispersion Northern Sky Survey. X. A–F Stars in a Region at Intermediate Galactic Latitude Primarily in Lynx and Leo Minor. *Peter Pesch & N. Sanduleak.* 71, 549, 43-D1 (1989)

The Case Low-Dispersion Northern Sky Survey. XI. A Region near the North Galactic Pole Including SA 57. *N. Sanduleak & Peter Pesch.* 72, 291, 5-G9 (1990)

PESNELL, W. D. The Structure of the Thermal Modes in Pulsating Stars. *W. D. Pesnell & J. R. Buchler.* 303, 740, 50-F1 (1986)

PESNELL, W. DEAN. Brunt-Väisälä Frequency and Semiconvection. *W. Dean Pesnell.* 301, 204, 16-B12 (1986)

A New Driving Mechanism for Stellar Pulsations. *W. Dean Pesnell.* 314, 598, 36-B3 (1987)

Pulsations of White Dwarf Stars with Thick Hydrogen or Helium Surface Layers. *Arthur N. Cox, Sumner G. Starrfield, Russell B. Kidman, & W. Dean Pesnell.* 317, 303, 67-B14 (1987)

On the Possibility of Detecting Weak Magnetic Fields in Variable White Dwarfs. *Philip W. Jones, W. Dean Pesnell, Carl J. Hansen, & Steven D. Kawaler.* 336, 403, 6-B12 (1989)

Some Thoughts on the Rapidly Oscillating Ap Stars. *W. Dean Pesnell.* 339, 1038, 64-E2 (1989)

Properties of Eötvös Spheres. *W. Dean Pesnell.* 344, 851, 144-G4 (1989)

Nonradial, Nonadiabatic Stellar Pulsations. *W. Dean Pesnell.* 363, 227, 185-A1 (1990)

PETER, TH. Doppler-shifted Emission from Helium Ions Accelerated in Solar Flares. *Th. Peter, E. N. Ragozin, A. M. Urnov, D. B. Uskov, & D. M. Rust.* 351, 317, 42-A10 (1990)

PETERS, GERALDINE J. Observation of the Onset of an Emission Episode in the Be Star Mu Centauri. *Geraldine J. Peters.* 301, L61, 27-C11 (1986)

Ultraviolet Observations of Be Stars. II. Superionization in Be Stars of Different Spectral Types. *J. M. Marlborough & Geraldine J. Peters.* 62, 875, 43-D11 (1986)

Pioneer 10 Observations of the Beta Cephei Stars Gamma Pegasi and Delta Ceti. *Geraldine J. Peters, H. S. Ogawa, K. S. Judge, & D. L. Judge.* 314, 261, 31-A3 (1987)

An Improved Photometric Analysis of SX Aurigae. *Albert P. Linnell, Geraldine J. Peters, & Ronald S. Polidan.* 327, 265, 50-A1 (1988)

Recent Unusual Activity in the Be Star FY Canis Majoris. *Geraldine J. Peters.* 331, L33, 114-C10 (1988)

PETERS, W. L. The Extragalactic Distance Scale Derived from "Sosie" Galaxies. II. Solar Motion and Hubble Constant. *G. de Vaucouleurs & W. L. Peters.* 303, 19, 41-B12 (1986)

The Correlation of Spiral Arm Molecular Clouds with Cold Atomic Hydrogen. *W. L. Peters & F. N. Bash.* 317, 646, 73-B8 (1987)

VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

PETERS, W. L., III. Detection of the $2_0 \rightarrow 3_{-1}$ Transition of $^{13}CH_3OH$ at 14.8 GHz. *T. B. H. Kuiper, W. L. Peters III, F. F. Gardner, J. B. Whiteoak, & J. E. Reynolds.* 340, L41, 75-F9 (1989)

PETERSON, B. A. Absorption Spectrum of the $z = 3.78$ QSO 2000−330. I. The Lyman-Alpha Forest Region at 1.5 Å Resolution. *R. W. Hunstead, H. S. Murdoch, B. A. Peterson, J. C. Blades, D. L. Jauncey, A. E. Wright, M. Pettini, & A. Savage.* 305, 496, 72-E8 (1986)

A Braking Index for PSR 0540−69. *R. N. Manchester & B. A. Peterson.* 342, L23, 109-C1 (1989)

PETERSON, B. M. Do the Broad Emission Lines in Arp 102B Arise in a Relativistic Disk? *J. S. Miller & B. M. Peterson.* 361, 98, 158-C1 (1990)

Optically Thin Thermal Emission as the Origin of the Big Bump in the Spectra of Active Galactic Nuclei. *G. J. Ferland, K. T. Korista, & B. M. Peterson.* 363, L21, 193-D5 (1990)

PETERSON, BRADLEY M. C IV Absorption Systems in QSO Spectra: Is the Character of Systems with $z_{abs} \cong z_{em}$ Different from Those with $z_{abs} \ll z_{em}$? *Craig B. Foltz, Ray J. Weymann, Bradley M. Peterson, Light Sun, Matthew A. Malkan, & Frederic H. Chaffee, Jr.* 307, 504, 102-C1 (1986)

Variability of the Optical Spectrum of NGC 5548 and Evidence for a Multiple-Component Broad-Line Region. *Bradley M. Peterson.* 312, 79, 1-G11 (1987)

The Double Broad-Line Emitting Regions in NGC 5548 as Possible Evidence for a Supermassive Binary. *Bradley M. Peterson, Kirk T. Korista, & Stephen A. Cota.* 312, L1, 7-A4 (1987)

The Accuracy of Cross-Correlation Estimates of Quasar Emission-Line Region Sizes. *C. Martin Gaskell & Bradley M. Peterson.* 65, 1, 28-A5 (1987)

The Size of the Broad-Line Region in the Seyfert Galaxy NGC 4151. *Bradley M. Peterson & Stephen A. Cota.* 330, 111, 91-C1 (1988)

Ultraviolet and Optical Spectroscopy of NGC 5548 and the Nature of the Broad-Line Region. *Bradley M. Peterson, Gail A. Reichert, Kirk T. Korista, & R. Mark Wagner.* 352, 68, 51-A1 (1990)

PETERSON, BRUCE A. Redshifts of Southern Radio Sources. VII. *Graeme L. White, David L. Jauncey, Ann Savage, Alan E. Wright, Michael J. Batty, Bruce A. Peterson, & Sam Gulkis.* 327, 561, 54-G7 (1988)

The $^{12}C/^{13}C$ Abundance Ratio in Comet Halley. *Susan Wyckoff, Eric Lindholm, Peter A. Wehinger, Bruce A. Peterson, Jean-Marc Zucconi, & Michel C. Festou.* 339, 488, 56-A6 (1989)

PETERSON, D. M. Milliarcsecond Resolution Infrared Observations of Young Stars in Taurus and Ophiuchus. *M. Simon, R. R. Howell, A. J. Longmore, B. A. Wilking, D. M. Peterson, & W.-P. Chen.* 320, 344, 111-G3 (1987)

PETERSON, DEANE M. Finsen 342 and the Hyades Distance Modulus. *Deane M. Peterson & Richard Solensky.* 315, 286, 43-A13 (1987)

51 Tauri and the Hyades Distance Modulus. *Deane M. Peterson & Richard Solensky.* 333, 256, 140-G10 (1988)

PETERSON, E. Problems with the Baade-Wesselink Method. *E. Böhm-Vitense, P. Garnavich, M. Lawler, J. Mena-Werth, S. Morgan, E. Peterson, & S. Temple.* 343, 343, 122-D4 (1989)

PETERSON, F. W. The Spectrum of Particles Radiating in Cylidrical and Filament Magnetic Fields. *F. W. Peterson.* 334, 841, 165-F4 (1988)

PETERSON, J. B. Anisotropy of the Diffuse Background at Millimeter Wavelengths. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 337, L1, 25-A6 (1989)

A Measurement of the Spectrum of the Cosmic Background Radiation from 1 to 3 Millimeter Wavelength. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 362, 107, 170-D9 (1990)

PETERSON, L. E. A Scanning Modulation Collimator Observation of the High Energy X-Ray Source in the Crab Nebula. *R. M. Pelling, W. S. Paciesas, L. E. Peterson, K. Makishima, M. Oda, Y. Ogawara, & S. Miyamoto.* 319, 416, 97-F7 (1987)

Temporal Behavior of Hercules X-1: The Long-Term Variability of Its Pulse Profile and the 35 Day X-Ray Intensity Modulation. *Y. Soong, D. E. Gruber, L. E. Peterson, & R. E. Rothschild.* 348, 634, 10-E3 (1990)

Spectral Behavior of Hercules X-1: Its Long-Term Variability and Pulse Phase Spectroscopy. *Y. Soong, D. E. Gruber, L. E. Peterson, & R. E. Rothschild.* 348, 641, 10-E11 (1990)

PETERSON, RUTH C. High-Precision Radial Velocities for Faint Giants: Radial Velocities of Extreme Halo Systems and the Mass of the Galaxy. *Edward W. Olszewski, Ruth C. Peterson, & Marc Aaronson.* 302, L45, 40-D8 (1986)

Stellar Velocity Dispersions for Four Low-Concentration Globular Clusters. *Ruth C. Peterson & David W. Latham.* 305, 645, 76-A1 (1986)

High-Precision Radial Velocities for Faint Giants. I. MMT Echelle Results for Globular Cluster Stars. *Ruth C. Peterson, Edward W. Olszewski, & Marc Aaronson.* 307, 139, 96-E5 (1986)

High-Precision Radial Velocities for Faint Giants. II. Calibration of the MMT Echellette. *Ruth C. Peterson & Craig B. Foltz.* 307, 143, 96-E9 (1986)

The Radial Velocity and Velocity Dispersion of the Remote Globular Cluster Palomar 15: Constraints on the Mass of the Galaxy. *Ruth C. Peterson & David W. Latham.* 336, 178, 3-C10 (1989)

Velocities of Stars in Remote Galactic Satellites and the Mass of the Galaxy. *Dennis Zaritsky, Edward W. Olszewski, Robert A. Schommer, Ruth C. Peterson, & Marc Aaronson.* 345, 759, 160-B8 (1989)

The Nonthermal Stellar Dynamics of the Globular Cluster M15. *Ruth C. Peterson, Patrick Seitzer, & Kyle M. Cudworth.* 347, 251, 185-B8 (1989)

Relative Abundance Determinations in Extremely Metal-poor Giants. I. Photometry and Equivalent Width Measurements. *Ruth C. Peterson & Bruce W. Carney.* 347, 266, 185-D1 (1989)

Relative Abundance Determinations in Extremely Metal Poor Giants. II. Transition Probabilities and the Abundance Determinations. *Ruth C. Peterson, Robert L. Kurucz, & Bruce W. Carney.* 350, 173, 27-C1 (1990)

PETHICK, C. J. Surface Structure of Neutron Stars with High Magnetic Fields. *I. Fushiki, E. H. Gudmundsson, & C. J. Pethick.* 342, 958, 114-B8 (1989)

PETRE, R. An X-Ray Survey of Hot White Dwarf Stars: Evidence for a n(He)/n(H) versus $T_{\rm eff}$ Correlation. *R. Petre, H. L. Shipman, & C. R. Canizares.* 304, 356, 57-G1 (1986)

EXOSAT Observations of V471 Tauri: A 9.25 Minute White Dwarf Pulsation and Orbital Phase Dependent X-Ray Dips. *K. A. Jensen, J. H. Swank, R. Petre, E. F. Guinan, E. M. Sion, & H. L. Shipman.* 309, L27, 125-E5 (1986)

A Comprehensive Study of the X-Ray Structure and Spectrum of IC 443. *R. Petre, A. E. Szymkowiak, F. D. Seward, & R. Willingale.* 335, 215, 172-G8 (1988)

PETRE, ROBERT. Forbidden Coronal Iron Line Images of Puppis A: Cloud Evaporation or Shocked Cloud? *Richard G. Teske & Robert Petre.* 314, 673, 37-A2 (1987)

Forbidden Coronal Iron-Line Emission in the Puppis A Shock Front: The Effect of Inhomogeneities. *Richard G. Teske & Robert Petre.* 318, 370, 83-A1 (1987)

IRAS Observations of Supernova Remnants: A Comparison between Their Infrared and X-Ray Cooling Rates. *Eli Dwek, Robert Petre, Andrew Szymkowiak, & Walter L. Rice.* 320, L27, 114-C4 (1987)

Differential Imaging of [Fe x] in IC 443. *Larry W. Brown, Bruce E. Woodgate, & Robert Petre.* 334, 852, 165-G1 (1988)

Comparative Morphological Analysis of Puppis A at Radio, Infrared, Optical, and X-Ray Wavelengths. *Richard G. Arendt, Eli Dwek, Robert Petre, John R. Dickel, Robert S. Roger, Douglas K. Milne, & Michael J. Kesteven.* 350, 266, 28-C6 (1990)

On the Interpretation of the *EXOSAT* Photometry of Two Hot DA White Dwarfs. *Stéphane Vennes, Harry L. Shipman, & Robert Petre.* 364, 647, 204-B13 (1990)

PETRICH, LOREN I. Accretion onto a Moving Black Hole: A Fully Relativistic Treatment. *Loren I. Petrich, Stuart L. Shapiro, Richard F. Stark, & Saul A. Teukolsky.* 336, 313, 5-A1 (1989)

PETROSIAN, V. Analytic and Numerical Calculations of Quantum Synchrotron Spectra from Relativistic Electron Distributions. *J. J. Brainerd & V. Petrosian.* 320, 703, 117-D11 (1987)

PETROSIAN, VAHÉ. Generation of Plasma Waves by Thick-Target Electron Beams and the Expected Radiation Signature. *Russell J. Hamilton & Vahé Petrosian.* 321, 721, 132-D6 (1987)

Rapid Temporal Evolution of Radiation from Nonthermal Electrons in Solar Flares. *Edward T. Lu & Vahé Petrosian.* 327, 405, 51-D7 (1988)

Accretion-Disk Modeling of the UV Spectrum of Quasars. *Amri Wandel & Vahé Petrosian.* 329, L11, 81-B1 (1988)

Luminous Arcs in Clusters of Galaxies. *Roger Lynds & Vahé Petrosian.* 336, 1, 1-A9 (1989)

Cosmological Parameters and Evolution of the Galaxy Luminosity Function. *David Caditz & Vahé Petrosian.* 337, L65, 32-A10 (1989)

The Ratio of Microwaves to X-Rays in Solar Flares: The Case for the Thick-Target Model. *Edward T. Lu & Vahé Petrosian.* 338, 1122, 47-E3 (1989)

Gravitational Lens Models of Arcs in Clusters. *Anton G. Bergmann, Vahé Petrosian, & Roger Lynds.* 350, 23, 25-C11 (1990)

Numerical Solution of the Time-dependent Kinetic Equation for Electrons in Magnetized Plasma. *Russell J. Hamilton, Edward T. Lu, & Vahé Petrosian.* 354, 726, 85-C9 (1990)

The Relative Timing of Microwaves and X-Rays from Solar Flares. *Edward T. Lu & Vahé Petrosian.* 354, 735, 85-D5 (1990)

Statistical and Physical Evolution of Quasi-stellar Objects. *David Caditz & Vahé Petrosian.* 357, 326, 116-F1 (1990)

Statistical Study of the Correlation of Hard X-Ray and Type III Radio Bursts in Solar Flares. *Russell J. Hamilton, Vahé Petrosian, & A. O. Benz.* 358, 644, 131-E1 (1990)

The Behavior of Beams of Relativistic Nonthermal Electrons under the Influence of Collisions and Synchrotron Losses. *James M. McTiernan & Vahé Petrosian.* 359, 524, 142-E4 (1990)

The Hard X-Rays and Gamma Rays from Solar Flares. *James M. McTiernan & Vahé Petrosian.* 359, 541, 142-F9 (1990)

Effects of Coulomb Collisions on Cyclotron Maser and Plasma Wave Growth in Magnetic Loops. *Russell J. Hamilton & Vahé Petrosian.* 365, 778, 218-A1 (1990)

PETROV, R. New Observations of Alpha Orionis with a Rotation Shearing Interferometer. *F. Roddier, C. Roddier, R. Petrov, F. Martin, G. Ricort, & C. Aime.* 305, L77, 80-D13 (1986)

PETROV, YU. V. Enhancement of Nucleosynthesis Reaction Rates Due to Nonthermalized Fast Neutrons. *Yu. V. Petrov & A. I. Shlyakhter.* 327, 294, 50-C2 (1988)

PETROV, Z. E. Structure of a Solar Active Region from RATAN 600 and Very Large Array Observations. *Sh. B. Akhmedow, V. N. Borovik, G. B. Gelfreikh, V. M. Bogod, A. N. Korzhavin, Z. E. Petrov, V. N. Dikij, Kenneth R. Lang, & Robert F. Willson.* 301, 460, 18-G9 (1986)

PETROVAY, KRISTÓF. Morphology of Convection and Mixing-Length Theory. *Kristóf Petrovay.* 362, 722, 179-F8 (1990)

PETSCHEK, ALBERT G. Concerning the High Photospheric Velocity of the Type I Supernova 1984A near Maximum Light. *Eric C. Pearce, Stirling A. Colgate, & Albert G. Petschek.* 325, L33, 31-C9 (1988)

PETTINI, M. Absorption Spectrum of the $z = 3.78$ QSO 2000–330. I. The Lyman-Alpha Forest Region at 1.5 Å Resolution. *R. W. Hunstead, H. S. Murdoch, B. A. Peterson, J. C. Blades, D. L. Jauncey, A. E. Wright, M. Pettini, & A. Savage.* 305, 496, 72-E8 (1986)

Absorption Spectrum of the $z = 3.78$ QSO 2000–330. II. The Redshift and Equivalent Width Distributions of Primordial Hydrogen Clouds. *H. S. Murdoch, R. W. Hunstead, M. Pettini, & J. C. Blades.* 309, 19, 120-B10 (1986)

The Distribution of Lyman-Alpha Absorption Lines in High-Redshift QSOs: The Case for Evolution Reexamined. *R. W. Hunstead, H. S. Murdoch, M. Pettini, & J. C. Blades.* 329, 527, 82-C10 (1988)

Abundances in Intermediate-Velocity Clouds toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 332, L75, 137-D5 (1988)

An Ultraviolet Spectral Atlas of Interstellar Lines toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 334, 308, 157-G1 (1988)

PETTINI, MAX. A Search for Million Degree Gas in the Galactic Halo and the Large Magellanic Cloud through [Fe X] λ6375 Absorption. *Max Pettini & Sandro D'Odorico.* 310, 700, 141-E12 (1986)

PG 0832+676: An Apparently Normal B1 V Star 18 Kiloparsecs above the Galactic Plane. *Paul J. F. Brown, Philip L. Dufton, Francis P. Keenan, Alec Boksenberg, David L. King, & Max Pettini.* 339, 397, 55-A2 (1989)

Million Degree Gas in the Galactic Halo and the Large Magellanic Cloud. II. The Line of Sight to SN 1987A. *Max Pettini, Raylee Stathakis, Sandro D'Odorico, Paolo Molaro, & Giovanni Vladilo.* 340, 256, 70-C1 (1989)

Metal Enrichment, Dust, and Star Formation in Galaxies at High Redshifts. I. The $z = 2.3091$ Absorber toward PHL 957. *Max Pettini, Alec Boksenberg, & Richard W. Hunstead.* 348, 48, 1-F1 (1990)

Metal Enrichment, Dust, and Star Formation in Galaxies at High Redshifts. II. Lyman-Alpha Emission from the $z = 2.465$ Absorber toward Q0836+113. *Richard W. Hunstead, Max Pettini, & André B. Fletcher.* 356, 23, 99-C11 (1990)

PETUCHOWSKI, S. J. Detection of the $2_{20} \rightarrow 2_{21}$ Transition of HDO in Orion A: Evidence for Dense Clumped Gas in the Hot Core. *S. J. Petuchowski & C. L. Bennett.* 326, 376, 36-D1 (1988)

CO Formation in the Metal-rich Ejecta of SN 1987A. *S. J. Petuchowski, E. Dwek, J. E. Allen, Jr., & J. A. Nuth III.* 342, 406, 105-F14 (1989)

Formaldehyde Absorption toward W51. *A. Kogut, G. F. Smoot, C. L. Bennett, & S. J. Petuchowski.* 346, 763, 176-G2 (1989)

In Situ Measurement of the Cosmic Microwave Background Temperature at a Distance of 7.5 Kiloparsecs. *A. Kogut, S. J. Petuchowski, C. L. Bennett, & G. F. Smoot.* 348, L45, 13-A10 (1990)

PFENNIGER, DANIEL. Galaxy Rotation Curves and Dissipation. *Daniel Pfenniger.* 343, 142, 119-G12 (1989)

Dissipation in Barred Galaxies: The Growth of Bulges and Central Mass Concentrations. *Daniel Pfenniger & Colin Norman.* 363, 391, 189-A1 (1990)

PHILLIPS, A. IRAS 18059–3211: Optically Known as "Gomez's Hamburger": Erratum. *M. T. Ruiz, V. Blanco, J. Maza, S. Heathcote, A. Phillips, K. Kawara, C. Anguita, M. Hamuy, & A. Gómez.* 320, L157, 121-F14 (1987) (Orig. paper in 316, L21, 56-B10 (1987))

PHILLIPS, ANDREW. IRAS 18059–3211: Optically Known as "Gomez's Hamburger." *María Teresa Ruiz, Victor Blanco, José Maza, Steve Heathcote, Andrew Phillips, Kimiaki Kawara, Claudio Anguita, Mario Hamuy, & Arturo Gómez.* 316, L21, 56-B10 (1987)

PHILLIPS, J. A. A Young Planetary Nebula with OH Molecules: NGC 6302. *H. E. Payne, J. A. Phillips, & Yervant Terzian.* 326, 368, 36-C4 (1988)

Interpulse Emission from Pulsars at 25 MHz. *J. A. Phillips & A. Wolszczan.* 344, L69, 148-C9 (1989)

The Magnetic Geometry and Radio Beam of PSR 1929+10. *J. A. Phillips.* 361, L57, 168-D2 (1990)

Radio Interferometry by Lunar Reflections. *T. Hagfors, J. A. Phillips, & L. Belkora.* 362, 308, 173-A7 (1990)

PHILLIPS, JAMES. A Search for Near-Infrared Counterparts of IRAS Embedded Sources in the M17 SW Giant Molecular Cloud. *Debra Meloy Elmegreen, James Phillips, Kelly Beck, Holly Thomas, & Jamie Howard.* 335, 803, 181-D9 (1988)

PHILLIPS, JOHN G. Oscillator Strengths of the CN Red System. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engleman, Jr., John G. Phillips, & Robert P. Hubbard.* 303, 892, 52-D8 (1986)

Oscillator Strengths of the CN Red System: Erratum. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engelman, Jr., John G. Phillips, & Robert P. Hubbard.* 307, 414, 99-E10 (1986) (Orig. paper in 303, 892, 52-D8 (1986))

Transition Rates for the TiO β, δ, ϕ, γ', γ, and α Systems. *Sumner P. Davis, J. E. Littleton, & John G. Phillips.* 309, 449, 124-G5 (1986)

The Near-Infrared Spectrum of the FeH Molecule. *John G. Phillips, Sumner P. Davis, Bo Lindgren, & Walter J. Balfour.* 65, 721, 39-F2 (1987)

On the Rotation and Vibration-Rotation Spectrum of FeH. *John G. Phillips & Sumner P. Davis.* 66, 227, 4-F1 (1988)

The Spectrum of the TiCl Molecule in the 4200 Å Region. *John G. Phillips & Sumner P. Davis.* 71, 163, 36-D3 (1989)

PHILLIPS, K. C. Polarization and Beaming of Accretion Disk Radiation. *K. C. Phillips & P. Mészáros.* 310, 284, 135-B6 (1986)

PHILLIPS, K. J. H. On the Dependence of Solar Flare X-Ray Spectral Line Intensity Ratios of Highly Ionized Sulfur, Calcium, and Iron on Electron Temperature, Differential Emission Measure, and Atomic Physics. *G. A. Doschek, A. Fludra, R. D. Bentley, J. Lang, K. J. H. Phillips, & T. Watanabe.* 358, 665, 131-G3 (1990)

The $1\ ^1S$–$n\ ^1P/1\ ^1S$–$2\ ^1P$ Emission-Line Ratios in Si XIII as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, S. M. McCann, & K. J. H. Phillips.* 363, 310, 186-A5 (1990)

PHILLIPS, M. M. Recurrent Outbursts in the Broad-Line Region of NGC 1566. *Danielle Alloin, Didier Pelat, M. M. Phillips, R. A. E. Fosbury, & K. Freeman.* 308, 23, 108-C2 (1986)

The Wolf-Rayet Population in 30 Doradus and Its Surroundings. *Anthony F. J. Moffat, Virpi S. Niemela, M. M. Phillips, You-Hua Chu, & Wilhelm Seggewiss.* 312, 612, 9-E7 (1987)

Infrared Photometry and Spectroscopy of Supernova 1986g in NGC 5128–Centaurus A. *Jay A. Frogel, Brooke Gregory, Kimiaki Kawara, Dave Laney, M. M. Phillips, Don Terndrup, Frederick Vrba, & Albert E. Whitford.* 315, L129, 49-E11 (1987)

Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

Ionized Gas and Radio Emission in the Barred Seyfert Galaxy NGC 5728. *Robert A. Schommer, Nelson Caldwell, A. S. Wilson, J. A. Baldwin, M. M. Phillips, T. B. Williams, & A. J. Turtle.* 324, 154, 2-F9 (1988)

Line Identifications in the Infrared Spectrum of SN 1987A. *J. H. Elias, B. Gregory, M. M. Phillips, R. E. Williams, James R. Graham, W. P. S. Meikle, R. D. Schwartz, & B. Wilking.* 331, L9, 114-B1 (1988)

Brackett α and γ Observations of Starburst and Seyfert Galaxies. *Kimiaki Kawara, Minoru Nishida, & M. M. Phillips.* 337, 230, 20-C1 (1989)

Star Formation in NGC 5253. *Nelson Caldwell & M. M. Phillips.* 338, 789, 43-E12 (1989)

PHILLIPS, P. E. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2\text{–}2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

PHILLIPS, R. B. Superluminal Motion of the Radio Core of BL Lacertae: 1980.4–1988.3. *R. L. Mutel, R. B. Phillips, Bumei*

Su, & R. R. Bucciferro. 352, 81, 51-B1 (1990)
Synchrotron Radiation from the Winds of O Supergiants: $T_b = 10^{7.6}$ K at 60 R_*. *R. B. Phillips & M. A. Titus.* 359, L15, 138-B7 (1990)
PHILLIPS, ROBERT B. Dual Frequency and Dual Polarization VLBI Observations of the Stellar System Algol. *Jean-François Lestrade, Robert L. Mutel, Robert A. Preston, & Robert B. Phillips.* 328, 232, 64-E1 (1988)
PHILLIPS, T. G. The Rotational Emission-Line Spectrum of Orion A between 247 and 263 GHz. *Geoffrey A. Blake, E. C. Sutton, C. R. Masson, & T. G. Phillips.* 60, 357, 5-A14 (1986)
High-Resolution Mapping of Molecular Outflows in NGC 2071, W49, and NGC 7538. *N. Z. Scoville, A. I. Sargent, D. B. Sanders, M. J. Claussen, C. R. Masson, K. Y. Lo, & T. G. Phillips.* 303, 416, 45-F2 (1986)
Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)
Small-Scale Structure of the Circumstellar Gas of HL Tauri and R Monocerotis. *S. Beckwith, A. I. Sargent, N. Z. Scoville, C. R. Masson, B. Zuckerman, & T. G. Phillips.* 309, 755, 129-E3 (1986)
Excitation of Methyl Cyanide in the Hot Core of Orion. *E. C. Sutton, Geoffrey A. Blake, R. Genzel, C. R. Masson, & T. G. Phillips.* 311, 921, 158-A1 (1986)
Molecular Gas in the Starburst Nucleus of M82. *K. Y. Lo, K. W. Cheung, C. R. Masson, T. G. Phillips, S. L. Scott, & D. P. Woody.* 312, 574, 9-B7 (1987)
Comparison of Submillimeter and Ultraviolet Observations of Neutral Carbon toward Zeta Ophiuchi. *Jocelyn Keene, Geoffrey A. Blake, & T. G. Phillips.* 313, 396, 19-D1 (1987)
Molecular Abundances in OMC-1: The Chemical Composition of Interstellar Molecular Clouds and the Influence of Massive Star Formation. *Geoffrey A. Blake, E. C. Sutton, C. R. Masson, & T. G. Phillips.* 315, 621, 47-D9 (1987)
Molecular Spiral Structure in M51. *K. Y. Lo, R. Ball, C. R. Masson, T. G. Phillips, S. Scott, & D. P. Woody.* 317, L63, 78-B11 (1987)
CO Maps of the OMC-1 Outflow. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 319, 446, 98-A11 (1987)
CO Emission from Centaurus A. *T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, R. J. Howard, C. R. Masson, D. B. Sanders, B. Veidt, & K. Young.* 322, L73, 152-B8 (1987)
CO Maps of the OMC-1 Outflow: Erratum. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 446, 98-A11 (1987))
CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)
The Abundances of Atomic Carbon and Carbon Monoxide Compared with Visual Extinction in the Ophiuchus Molecular Cloud Complex. *Margaret A. Frerking, Jocelyn Keene, Geoffrey A. Blake, & T. G. Phillips.* 344, 311, 136-G10 (1989)
A Very Fast Molecular Outflow from the Proto–Planetary Nebula CRL 618. *C. F. Gammie, G. R. Knapp, K. Young, T. G. Phillips, & E. Falgarone.* 345, L87, 165-C1 (1989)
CO(2→1) Emission from the Interacting Galaxy Pair NGC 3256. *A. I. Sargent, D. B. Sanders, & T. G. Phillips.* 346, L9, 173-B1 (1989)
A Signature of the Intermittency of Interstellar Turbulence: The Wings of Molecular Line Profiles. *E. Falgarone & T. G. Phillips.* 359, 344, 140-C9 (1990)
PHILLIPS, THOMAS G. Submillimeter Water Masers. *Karl M. Menten, Gary J. Melnick, & Thomas G. Phillips.* 350, L41, 37-C1 (1990)
A New Submillimeter Water Maser Transition at 325 GHz. *Karl M. Menten, Gary J. Melnick, Thomas G. Phillips, & David A. Neufeld.* 363, L27, 193-E1 (1990)
PHINNEY, E. S. 1146+111B,C: A Giant Gravitational Lens? *R. D. Blandford, E. S. Phinney, & R. Narayan.* 313, 28, 15-C6 (1987)
Infrared Images of the Nucleus of M31. *Jeremy Mould, James Graham, K. Matthews, B. T. Soifer, & E. S. Phinney.* 339, L21, 58-C1 (1989)
Continuum Energy Distributions of Quasars: Shapes and Origins. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 347, 29, 182-D7 (1989)
Continuum Energy Distributions of Quasars: Shapes and Origins: Erratum. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 357, 291, 114-F6 (1990) (Orig. paper in 347, 29, 182-D7 (1989))
PICA, A. J. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)
Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)
PICARD, ALAIN. Luminous M Giants in the Bulge of M31. *R. Michael Rich, Jeremy Mould, Alain Picard, Jay A. Frogel, & Roger Davies.* 341, L51, 99-F4 (1989)
A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)
PICCHIO, G. Are *s*-Elements Really Produced during Thermal Pulses in Intermediate-Mass Stars? *M. Busso, G. Picchio, R. Gallino, & A. Chieffi.* 326, 196, 34-C5 (1988)
On the Role of Low-Mass Asymptotic Giant Branch Stars in Producing a Solar System Distribution of *s*-Process Isotopes. *R. Gallino, M. Busso, G. Picchio, C. M. Raiteri, & A. Renzini.* 334, L45, 161-E5 (1988)
s-Process Nucleosynthesis: Classical Approach and Asymptotic Giant Branch Models for Low-Mass Stars. *F. Käppeler, R. Gallino, M. Busso, G. Picchio, & C. M. Raiteri.* 354, 630, 84-B7 (1990)
PICCIRILLO, L. Millimeter Observations of the Magellanic Clouds. *P. Andreani, C. Ceccarelli, G. Dall'Oglio, L. Martinis, L. Piccirillo, L. Pizzo, L. Rossi, & C. Venturino.* 348, 467, 8-D3 (1990)
PICHÉ, FRANÇOIS. Outburst Spectra of 11 Dwarf Novae. *Paula Szkody, François Piché, & Laurie Feinswog.* 73, 441, 24-E1 (1990)
The Phase 0.5 Absorption in V1315 Aquilae, SW Sextantis, and DW Ursae Majoris. *Paula Szkody & François Piché.* 361, 235, 159-G7 (1990)
PICK, M. Meter–Decimeter and Microwave Radio Observations of Solar Flares. *M. Pick, K.-L. Klein, & G. Trottet.* 73, 165, 19-G13 (1990)
PICKLES, A. J. The Dwarf Star Content of Elliptical and Lenticular Galaxies. *D. Carter, N. Visvanathan, & A. J. Pickles.* 311, 637, 154-G1 (1986)
PICONE, J. M. Nonlinear Evolution of Radiation-driven Thermally Unstable Fluids. *R. B. Dahlburg, C. R. DeVore, J. M. Picone, J. T. Mariska, & J. T. Karpen.* 315, 385, 44-B5 (1987)
PICONE, J. MICHAEL. Nonlinear Thermal Instability in the Solar Transition Region. *Judith T. Karpen, J. Michael Picone, & Russell B. Dahlburg.* 324, 590, 7-F7 (1988)
Nonlinear Thermal Instability in Magnetized Solar Plasmas. *Judith T. Karpen, Spiro K. Antiochos, J. Michael Picone, & Russell B. Dahlburg.* 338, 493, 39-A1 (1989)
PIDWERBETSKY, A. Refractive and Diffractive Scattering in the Interstellar Medium. *J. M. Cordes, A. Pidwerbetsky, & R. V. E. Lovelace.* 310, 737, 142-A9 (1986)
PIERCE, MICHAEL J. The Structure of the Cygnus A Radio Galaxy. *Michael J. Pierce & Alan Stockton.* 305, 204, 69-B8 (1986)
Distances to the Virgo and Ursa Major Clusters and a Determination of H_0. *Michael J. Pierce & R. Brent Tully.* 330, 579, 98-G7 (1988)
An Absolute Calibration of the L-σ and L-σ-Σ Relations for Elliptical Galaxies and the Distance to the Virgo and Fornax Clusters. *Michael J. Pierce.* 344, L57, 148-B9 (1989)
Classification of Galaxies on CCD Frames. *Sidney van den Bergh, Michael J. Pierce, & R. Brent Tully.* 359, 4, 134-B5 (1990)

The Dustiness, Luminosity, and Metallicity of Galaxies. *Sidney van den Bergh & Michael J. Pierce.* 364, 444, 201-D14 (1990)

PIETRINI, PAOLA. Extragalactic Jets as Current-carrying Systems. I. Equilibrium and Stability. *Claudio Chiuderi, Paola Pietrini, & Guidetta Torricelli Ciamponi.* 339, 70, 50-G8 (1989)

Extragalactic Jets as Current-carrying Systems. III. Energy Requirements and Critical Discussion. *Guidetta Torricelli-Ciamponi & Paola Pietrini.* 361, 32, 157-D7 (1990)

PIETSCH, W. *EXOSAT* Observations of the 35 Day Cycle of Hercules X-1: Evidence for Neutron Star Precession. *J. Trümper, P. Kahabka, H. Ögelman, W. Pietsch, & W. Voges.* 300, L63, 13-E1 (1986)

X-Ray Observations of the Starburst Galaxy M82. *R. Schaaf, W. Pietsch, P. L. Biermann, P. P. Kronberg, & T. Schmutzler.* 336, 722, 11-D1 (1989)

PIGATTO, LUISA. The Distance Modulus of the Large Magellanic Cloud. *Cesare Chiosi & Luisa Pigatto.* 308, 1, 108-A9 (1986)

PIKE, G. F. Broad-Band Properties of the CfA Seyfert Galaxies. III. Ultraviolet Variability. *R. A. Edelson, J. H. Krolik, & G. F. Pike.* 359, 86, 135-B9 (1990)

PILACHOWSKI, CATHERINE. The Abundance of Lithium in Old Galactic Clusters. I. NGC 7789. *Catherine Pilachowski.* 300, 289, 4-C4 (1986)

Lithium in NGC 752. *L. M. Hobbs & Catherine Pilachowski.* 309, L17, 125-D10 (1986)

Lithium in M67. *L. M. Hobbs & Catherine Pilachowski.* 311, L37, 160-B5 (1986)

Lithium in an Extreme Halo Star. *L. M. Hobbs & Catherine Pilachowski.* 326, L23, 38-C2 (1988)

Lithium in Old Open Clusters: NGC 188. *L. M. Hobbs & Catherine Pilachowski.* 334, 734, 164-E1 (1988)

On Lithium Removal from G Dwarfs. *L. M. Hobbs, Icko Iben, Jr., & Catherine Pilachowski.* 347, 817, 193-E1 (1989)

On Lithium Removal from G Dwarfs: Erratum. *L. M. Hobbs, Icko Iben, Jr., & Catherine Pilachowski.* 355, 745, 97-G5 (1990) (Orig. paper in 347, 817, 193-E1 (1989))

PILACHOWSKI, CATHERINE A. Carbon Isotope Ratios in Giant Stars of the Old Galactic Cluster NGC 7789. *Christopher Sneden & Catherine A. Pilachowski.* 301, 860, 25-B1 (1986)

Carbon Isotope Ratios in Field Population II Giant Stars. *Christopher Sneden, Catherine A. Pilachowski, & Don A. VandenBerg.* 311, 826, 156-G5 (1986)

The Abundance of Oxygen in M92 Giant Stars. *Catherine A. Pilachowski.* 326, L57, 46-B11 (1988)

Abundances of Neutron Capture Elements in Population II Stars. *Kalpana Krishnaswamy Gilroy, Christopher Sneden, Catherine A. Pilachowski, & John J. Cowan.* 327, 298, 50-C6 (1988)

A Search for ^{6}Li in the Galactic Halo. *Catherine A. Pilachowski, L. M. Hobbs, & David S. De Young.* 345, L39, 157-D6 (1989)

PILBRATT, G. VLBI and MERLIN Observations of 3C 120 at 1.7 GHz: Superluminal Motions beyond 0.″05. *J. M. Benson, R. C. Walker, S. C. Unwin, T. W. B. Muxlow, P. N. Wilkinson, R. S. Booth, G. Pilbratt, & R. S. Simon.* 334, 560, 162-D9 (1988)

PILIPP, W. The Effects of Dust on the Propagation and Dissipation of Alfvén Waves in Interstellar Clouds. *W. Pilipp, T. W. Hartquist, O. Havnes, & G. E. Morfill.* 314, 341, 37-G9 (1987)

PIM, RICK. Development of Voids in the Thin-Wall Approximation. II. Radiation-filled Voids in a Flat Background. *Rick Pim & Kayll Lake.* 304, 75, 54-F10 (1986)

Development of Voids in the Thin-Wall Approximation. III. Radiation-filled Voids in a Nonflat Background. *Rick Pim & Kayll Lake.* 330, 625, 99-C10 (1988)

PINEAULT, S. VRO 42.05.01: A Supernova Remnant Reenergizing an Interstellar Cavity. *S. Pineault, T. L. Landecker, & D. Routledge.* 315, 580, 47-A10 (1987)

PINEAULT, SERGE. The Radio Luminosity and Magnetic Field of Pulsars. *Serge Pineault.* 301, 145, 15-E2 (1986)

Encounters between Degenerate Stars and Extrasolar Comet Clouds. *Serge Pineault & Eric Poisson.* 347, 1141, 197-G1 (1989)

PINES, D. Spontaneous Superfluid Unpinning and the Inhomogeneous Distribution of Vortex Lines in Neutron Stars. *K. S. Cheng, M. A. Alpar, D. Pines, & J. Shaham.* 330, 835, 101-F8 (1988)

Vortex Creep and the Internal Temperature of Neutron Stars: Linear and Nonlinear Response to a Glitch. *M. A. Alpar, K. S. Cheng, & D. Pines.* 346, 823, 177-E2 (1989)

PINES, DAVID. Vortex Creep and the Internal Temperature of Neutron Stars: Timing Noise in Pulsars. *M. Ali Alpar, Radha Nandkumar, & David Pines.* 311, 197, 148-B11 (1986)

PINSONNEAULT, M. H. Evolutionary Models of the Rotating Sun. *M. H. Pinsonneault, Steven D. Kawaler, S. Sofia, & P. Demarque.* 338, 424, 38-B11 (1989)

Rotation of Low-Mass Stars: A New Probe of Stellar Evolution. *M. H. Pinsonneault, Steven D. Kawaler, & P. Demarque.* 74, 501, 37-B11 (1990)

PINSONNEAULT, MARC H. The Ages of Globular Cluster Stars: Effects on Rotation of Pre–Main-Sequence, Main-Sequence, and Turnoff Evolution. *Constantine P. Deliyannis, Pierre Demarque, & Marc H. Pinsonneault.* 347, L73, 199-D1 (1989)

Beryllium in the Galactic Halo: Surface Abundances from Standard, Diffusive, and Rotational Stellar Evolution, and Implications. *Constantine P. Deliyannis & Marc H. Pinsonneault.* 365, L67, 219-D7 (1990)

PINTO, P. A. Supernova 1987A in the Large Magellanic Cloud: The Explosion of a $\sim 20 M_\odot$ Star Which Has Experienced Mass Loss? *S. E. Woosley, P. A. Pinto, P. G. Martin, & Thomas A. Weaver.* 318, 664, 88-B11 (1987)

Spectral Line Profiles of Nickel and Argon in Supernova 1987A: Expansion Velocity and Electron Scattering Effects. *F. C. Witteborn, J. D. Bregman, D. H. Wooden, P. A. Pinto, D. M. Rank, S. E. Woosley, & M. Cohen.* 338, L9, 40-C1 (1989)

PINTO, PHILIP A. Supernova 1987A: Six Weeks Later. *S. E. Woosley, Philip A. Pinto, & L. Ensman.* 324, 466, 6-C9 (1988)

X-Ray and Gamma-Ray Emission from Supernova 1987A. *Philip A. Pinto & S. E. Woosley.* 329, 820, 86-A7 (1988)

SN 1987A: Out On the Tail. *Philip A. Pinto, S. E. Woosley, & Lisa M. Ensman.* 331, L101, 121-F3 (1988)

Hard Emission at Late Times from SN 1987A. *S. E. Woosley, Philip A. Pinto, & Dieter Hartmann.* 346, 395, 171-A6 (1989)

PIOTTO, GIAMPAOLO. The Deep Luminosity Function of the Globular Cluster M30. *Giampaolo Piotto, Ivan R. King, Massimo Capaccioli, Sergio Ortolani, & S. Djorgovski.* 350, 662, 34-C14 (1990)

PIPHER, J. L. Sagittarius A* and the Positions of Infrared Sources in the Galactic Center. *W. J. Forrest, J. L. Pipher, & W. A. Stein.* 301, L49, 27-B11 (1986)

Near-Infrared Images of the Bipolar Nebula OH 0739−14. *C. E. Woodward, W. J. Forrest, J. L. Pipher, A. Moneti, & M. A. Shure.* 337, 754, 28-D2 (1989)

PIPHER, JUDITH L. The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 302, 662, 37-G8 (1986)

Extinction to Ionized Gas at the Galactic Center: Erratum. *S. P. Willner & Judith L. Pipher.* 303, 521, 46-F12 (1986) (Orig. paper in 265, 760, 21-A13 (1983))

The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness: Erratum. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 312, 963, 13-E1 (1987) (Orig. paper in 302, 662, 37-G8 (1986))

High Spatial Resolution Infrared Imaging of L1551–IRS 5: Direct Observations of Its Circumstellar Envelope. *Andrea Moneti, William J. Forrest, Judith L. Pipher, & Charles E. Woodward.* 327, 870, 58-B10 (1988)

Spectroscopic Images of NGC 7027 in the Near-Infrared Dust Emission Features. *C. E. Woodward, Judith L. Pipher, Mark Shure, W. J. Forrest, & K. Sellgren.* 342, 860, 113-A7 (1989)

Infrared Imaging of the Compact H II Region W3A. *Thomas L. Hayward, Gary L. Grasdalen, Charles E. Woodward, John A. Hackwell, Robert D. Gehrz, & Judith L. Pipher.* 345, 894, 161-F1 (1989)

AFGL 2004: An Infrared Quintuplet near the Galactic Center. *Tetsuya Nagata, Charles E. Woodward, Mark Shure, Judith L. Pipher, & Haruyuki Okuda.* 351, 83, 39-B1 (1990)

Infrared Imaging of the M8 Hourglass. *Charles E. Woodward, Judith L. Pipher, H. L. Helfer, & W. J. Forrest.* 365, 252, 209-C7 (1990)

PIRAN, TSVI. Gravitational Lenses and Decay of Dark Matter. *Avishai Dekel & Tsvi Piran.* 315, L83, 49-B6 (1987)

Relative Bias Parameters from Angular Correlations of Optical and IRAS Galaxies. *Ofer Lahav, Robert J. Nemiroff, & Tsvi Piran.* 350, 119, 26-E1 (1990)

A Dipole Moment of the Microwave Background as a Cosmological Effect. *Bohdan Paczyński & Tsvi Piran.* 364, 341, 200-C1 (1990)

The Appearance of Cosmic Fireballs. *Amotz Shemi & Tsvi Piran.* 365, L55, 219-C5 (1990)

PIRO, L. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

First Unambiguous X-Ray Detection of R Aquarii. *R. Viotti, L. Piro, M. Friedjung, & A. Cassatella.* 319, L7, 100-A10 (1987)

An Exceptional Change in the X-Ray Flux and Spectrum of the Seyfert 1 Galaxy E1615+061. *L. Piro, E. Massaro, G. C. Perola, & D. Molteni.* 325, L25, 31-C1 (1988)

Small-Amplitude Coherent Signals in the X-Ray Emission of NGC 4151. *F. Fiore, E. Massaro, G. C. Perola, & L. Piro.* 347, 171, 183-C1 (1989)

X-Ray Spectral Signatures of Very Thick Cold Matter in the Spectra of the Seyfert 1 Galaxies NGC 7469 and IC 4329A. *L. Piro, M. Yamauchi, & M. Matsuoka.* 360, L35, 156-B7 (1990)

X-Ray Spectral Variability and Complex Absorption in the Seyfert 1 Galaxies NGC 4051 and MCG −6-30-15. *M. Matsuoka, L. Piro, M. Yamauchi, & T. Murakami.* 361, 440, 163-E6 (1990)

PIRRONELLO, V. Molecules Synthesized by Cosmic Rays in Cometary Nuclei: A Tool to Estimate Their Low-Energy Spectrum. *V. Pirronello & G. Lanzafame.* 342, 527, 107-B13 (1989)

PISANI, A. The Luminosity-Diameter Relations of Elliptical Galaxies in Different Environments. *G. Giuricin, F. Mardirossian, M. Mezzetti, & A. Pisani.* 345, 101, 150-C7 (1989)

PISCITELLI, JOSEPH. A Search for *p*-Mode Oscillations of Jupiter: Serendipitous Observations of Nonacoustic Thermal Wave Structure. *Drake Deming, Michael J. Mumma, Fred Espenak, Donald E. Jennings, Theodor Kostiuk, Gunter Wiedemann, Robert Loewenstein, & Joseph Piscitelli.* 343, 456, 123-F7 (1989)

PIZZICHINI, G. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

PIZZO, L. Millimeter Observations of the Magellanic Clouds. *P. Andreani, C. Ceccarelli, G. Dall'Oglio, L. Martinis, L. Piccirillo, L. Pizzo, L. Rossi, & C. Venturino.* 348, 467, 8-D3 (1990)

PIZZO, V. J. Numerical Solution of the Magnetostatic Equations for Thick Flux Tubes, with Application to Sunspots, Pores, and Related Structures. *V. J. Pizzo.* 302, 785, 39-C6 (1986)

Numerical Modeling of Solar Magnetostatic Structures Bounded by Current Sheets. *V. J. Pizzo.* 365, 764, 217-G1 (1990)

PIZZOCHERO, PIERRE. Mass-Energy Relation for SN 1987A from Observations. *Hans A. Bethe & Pierre Pizzochero.* 350, L33, 37-B5 (1990)

Early Spectrum and Bolometric Corrections for SN 1987A. *Pierre Pizzochero.* 354, 333, 78-C1 (1990)

PLACHCO M., FLORENCIO P. Effects of the Thermal Conduction on the Propagation of Linear Waves in a Radiating Fluid. *Miguel H. Ibàñez S., & Florencio P. Plachco M.* 336, 875, 13-D3 (1989)

PLAIT, PHILIP C. The Nature of S Andromedae (SN 1885A). *Roger A. Chevalier & Philip C. Plait.* 331, L109, 121-F11 (1988)

PLAMBECK, R. L. Aperture Synthesis Maps of HDO Emission in Orion-KL. *R. L. Plambeck & M. C. H. Wright.* 317, L101, 78-E4 (1987)

VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)

Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)

A 95 GHz Methanol Maser in Orion-KL. *R. L. Plambeck & M. C. H. Wright.* 330, L61, 96-G14 (1988)

Velocity Structure of the Orion–IRc2 SiO Maser: Evidence for an 80 AU Diameter Circumstellar Disk. *R. L. Plambeck, M. C. H. Wright, & J. E. Carlstrom.* 348, L65, 13-C7 (1990)

95 GHz Methanol Masers near DR 21 and DR 21(OH). *R. L. Plambeck & K. M. Menten.* 364, 555, 203-A9 (1990)

PLANESAS, P. The Molecular Envelope of Mira. *P. Planesas, R. Bachiller, J. Martín-Pintado, & V. Bujarrabal.* 351, 263, 41-C7 (1990)

Asymmetric Outflow in the Molecular Envelope of Mira. *P. Planesas, J. D. P. Kenney, & R. Bachiller.* 364, L9, 199-B8 (1990)

PLATT, S. Far-Infrared and Submillimeter Photometric Mapping of Spiral Galaxies in the Virgo Cluster. *A. A. Stark, J. A. Davidson, S. Platt, D. A. Harper, R. Pernic, R. Loewenstein, G. Engargiola, & S. Casey.* 337, 650, 27-B1 (1989)

PLATT, S. R. The Polarization of the Far-Infrared Radiation from the Galactic Center. *M. W. Werner, J. A. Davidson, M. Morris, G. Novak, S. R. Platt, & R. H. Hildebrand.* 333, 729, 148-C1 (1988)

Polarization of Far-Infrared Radiation from Molecular Clouds. *G. Novak, D. P. Gonatas, R. H. Hildebrand, S. R. Platt, & M. Dragovan.* 345, 802, 160-F1 (1989)

The Far-Infrared Polarization of the Orion Nebula. *D. P. Gonatas, G. A. Engargiola, R. H. Hildebrand, S. R. Platt, X. D. Wu, J. A. Davidson, G. Novak, D. K. Aitken, & C. Smith.* 357, 132, 112-F4 (1990)

The Magnetic Field in the Dust Ring at the Center of the Galaxy. *R. H. Hildebrand, D. P. Gonatas, S. R. Platt, X. D. Wu, J. A. Davidson, M. W. Werner, G. Novak, & M. Morris.* 362, 114, 170-E3 (1990)

PLÜMER, M. Baryonic-to-Hyperonic Transition in Collapsing Stars. *A. Gleeson, P. D. Morley, & M. Plümer.* 309, 161, 121-F10 (1986)

PLUMMER, GRANT M. The Laboratory Millimeter-Wave Spectrum of Methyl Formate in Its Ground Torsional *E* State. *Grant M. Plummer, Eric Herbst, Frank C. De Lucia, & Geoffrey A. Blake.* 60, 949, 15-A2 (1986)

C-Type Transitions in Methyl Formate. *Grant M. Plummer, Eric Herbst, & Frank C. De Lucia.* 318, 873, 90-E3 (1987)

PNEUMAN, G. W. The Energy Balance of Plasmoids in the Solar Atmosphere. *P. J. Cargill & G. W. Pneuman.* 307, 820, 106-A1 (1986)

PODOLAK, MORRIS. Radiogenic Heating of Comets by ^{26}Al and Implications for Their Time of Formation. *Dina Prialnik, Akiva Bar-Nun, & Morris Podolak.* 319, 993, 105-G1 (1987)

Evaporation from a Porous Cometary Nucleus. *Yuri Mekler, Dina Prialnik, & Morris Podolak.* 356, 682, 108-F6 (1990)

POE, C. H. The Steady State Solutions of Radiatively Driven Stellar Winds for a Non-Sobolev, Pure Absorption Model. *C. H. Poe, S. P. Owocki, & J. I. Castor.* 358, 199, 124-E6 (1990)

POE, CLINT H. A Rotating, Magnetic, Radiation-driven Wind Model Applied to Be Stars. *Clint H. Poe & David B. Friend.* 311, 317, 149-E8 (1986)

A Rotating, Magnetic, Radiation-driven Wind Model for Wolf-Rayet Stars. *Clint H. Poe, David B. Friend, & Joseph P. Cassinelli.* 337, 888, 30-A1 (1989)

POEDTS, S. Viscous Normal Modes on Coronal Inhomogeneities and Their Role as a Heating Mechanism. *R. S. Steinolfson, E. R. Priest, S. Poedts, L. Nocera, & M. Goosens.* 304, 526, 59-F3 (1986)

POEDTS, STEFAAN. On the Efficiency of Coronal Loop Heating by Resonant Absorption. *Stefaan Poedts, Marcel Goossens, & Wolfgang Kerner.* 360, 279, 148-D10 (1990)

PÖPPEL, W. G. L. Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

POETZEL, R. Optical Jets from the High-Luminosity Young Stars LkHα and AFGL 4029. *T. P. Ray, R. Poetzel, J. Solf, & R. Mundt.* 357, L45, 121-D3 (1990)

POGGE, RICHARD W. FY Aquilae and the Gamma-Ray Burst Event of 1979 March 31. *Dieter Hartmann & Richard W. Pogge.* 318, 363, 82-G4 (1987)

Optical Spectra of Narrow Emission Line Palomar-Green Galaxies. *Donald E. Osterbrock & Richard W. Pogge.* 323, 108, 154-C4 (1987)

An Extended Ionizing Radiation Cone from the Nucleus of the Seyfert 2 Galaxy NGC 1068. *Richard W. Pogge.* 328, 519, 68-F9 (1988)

Extended Ionized Gas in the Seyfert 2 Galaxy NGC 4388. *Richard W. Pogge.* 332, 702, 132-A1 (1988)

OTS 1809+314 and the Gamma-Ray Burst GB 790325b. *Dieter Hartmann, Richard W. Pogge, Kevin Hurley, Frederick J. Vrba, & Mark C. Jennings.* 336, 889, 13-E6 (1989)

The Circumnuclear Environment of Nearby, Noninteracting Seyfert Galaxies. *Richard W. Pogge.* 345, 730, 159-G5 (1989)

Ionized Gas in the Nuclear Regions of Nearby Non-Seyfert Spiral Galaxies. *Richard W. Pogge.* 71, 433, 41-D3 (1989)

POGLITSCH, A. Detection of Far-Infrared ^{13}CO Line Emission. *R. Genzel, A. Poglitsch, & G. J. Stacey.* 333, L59, 152-D1 (1988)

Further Observations of Rotationally Excited Far-Infrared ^{16}OH and ^{18}OH Emission in Orion-KL: Tighter Constraints on the Nature of the Emitting Region. *G. J. Melnick, G. J. Stacey, R. Genzel, J. B. Lugten, & A. Poglitsch.* 348, 161, 3-A10 (1990)

Far-Infrared, Submillimeter, and Millimeter Spectroscopy of the Galactic Center: Radio Arc and +20/+50 Kilometer per Second Clouds. *R. Genzel, G. J. Stacey, A. I. Harris, C. H. Townes, N. Geis, U. U. Graf, A. Poglitsch, & J. Stutzki.* 356, 160, 101-A9 (1990)

POISSON, ERIC. Encounters between Degenerate Stars and Extrasolar Comet Clouds. *Serge Pineault & Eric Poisson.* 347, 1141, 197-G1 (1989)

POLIDAN, R. S. Dwarf Nova Burst Asymmetry and the Physics of Accretion Disks. *J. K. Cannizzo, J. C. Wheeler, & R. S. Polidan.* 301, 634, 22-E8 (1986)

Voyager and *IUE* Observations of 3C 273: Detection of Possible Lyman Continuum Absorption in a Nearby (z = 0.158) Quasar. *G. A. Reichert, R. S. Polidan, C.-C. Wu, & T. E. Carone.* 325, 671, 28-A1 (1988)

Far-Ultraviolet Extinction Determined from *Voyager* Data. *Theodore P. Snow, M. M. Allen, & R. S. Polidan.* 359, L23, 138-C1 (1990)

POLIDAN, RONALD S. An Improved Photometric Analysis of SX Aurigae. *Albert P. Linnell, Geraldine J. Peters, & Ronald S. Polidan.* 327, 265, 50-A1 (1988)

Intrinsic Ultraviolet (912–3200 Å) Energy Distribution of OB Stars. *Renata Longo, Roberto Stalio, Ronald S. Polidan, & Lucio Rossi.* 339, 474, 55-G4 (1989)

A Study of Extreme-Ultraviolet Emission from Cataclysmic Variables. *Ronald S. Polidan, Christopher W. Mauche, & Richard A. Wade.* 356, 211, 101-F5 (1990)

POLITZER, H. DAVID. The Significance of Voids. *S. Otto, H. David Politzer, John Preskill, & Mark B. Wise.* 304, 62, 54-E11 (1986)

Interpretation of Large-Scale Deviations from the Hubble Flow. *B. Grinstein, H. David Politzer, S.-J. Rey, & Mark B. Wise.* 314, 431, 34-C1 (1987)

POLK, K. S. Molecules in Galaxies. VI. Diffuse and Dense Cloud Contributions to the Large-Scale CO Emission of the Galaxy. *K. S. Polk, G. R. Knapp, A. A. Stark, & R. W. Wilson.* 332, 432, 127-G5 (1988)

POLK, KEVIN. The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

POLLOCK, A. M. T. The *Einstein* View of the Wolf-Rayet Stars. *A. M. T. Pollock.* 320, 283, 111-B12 (1987)

Comments on the *Einstein* X-Ray Variability of HD 50896 and Other Wolf-Rayet Stars. *A. M. T. Pollock.* 347, 409, 187-B6 (1989)

A Study of BL Lacertae–Type Objects with *EXOSAT*. I. Flux Correlations, Luminosity, Variability, and Spectral Variability. *P. Giommi, P. Barr, B. Garilli, D. Maccagni, & A. M. T. Pollock.* 356, 432, 105-F1 (1990)

POLLOCK, J. T. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

POLOMSKI, ELISHA. Weak Bump Quasars. *Jonathan C. McDowell, Martin Elvis, Belinda J. Wilkes, Steven P. Willner, M. S. Oey, Elisha Polomski, Jill Bechtold, & Richard F. Green.* 345, L13, 157-B5 (1989)

POMERANTZ, M. A. Solar Cycle Variation of Cosmic-Ray North-South Anisotropy and Radial Gradient. *J. W. Bieber & M. A. Pomerantz.* 303, 843, 51-F9 (1986)

Frequencies of Solar p-Mode Oscillations. *T. L. Duvall, Jr., J. W. Harvey, K. G. Libbrecht, B. D. Popp, & M. A. Pomerantz.* 324, 1158, 16-C1 (1988)

POMPEA, S. M. Inhibition of Star Formation in Sa Galaxies. *S. M. Pompea & G. H. Rieke.* 342, 250, 104-A3 (1989)

POMPEA, STEPHEN M. A Test of the Association of Infrared Activity with Bars. *Stephen M. Pompea & G. H. Rieke.* 356, 416, 105-D8 (1990)

PONCE, G. A. Cosmic String Shocks and Microwave Spectral Distortions. *G. A. Ponce & E. T. Vishniac.* 332, 57, 123-F4 (1988)

POOLEY, G. G. Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

POPHAM, ROBERT. Angular Momentum of Accreting White Dwarfs: Implications for Millisecond Pulsar Formation. *Ramesh Narayan & Robert Popham.* 346, L25, 173-C8 (1989)

POPP, B. D. Frequencies of Solar p-Mode Oscillations. *T. L. Duvall, Jr., J. W. Harvey, K. G. Libbrecht, B. D. Popp, & M. A. Pomerantz.* 324, 1158, 16-C1 (1988)

POPP, BRUCE. Observations of the 12 Micron Mg I Lines in Various Solar Features. *Harold Zirin & Bruce Popp.* 340, 571, 74-C9 (1989)

POPPEL, W. G. L. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

POPPER, DANIEL M. Can Binary Stars Test Solar Models? *Daniel M. Popper & Roger K. Ulrich.* 307, L61, 107-C6 (1986)

A Pre–Main-Sequence Star in the Detached Binary EK Cephei. *Daniel M. Popper.* 313, L81, 27-D7 (1987)

Radial Velocities in 12 Algol Binaries. *Daniel M. Popper.* 71, 595, 44-C1 (1989)

POQUÉRUSSE, M. Radio Evidence for a Magnetic Mirror Effect on Beams of Subrelativistic Electrons in the Solar Corona. *C. Caroubalos, M. Poquérusse, J.-L. Bourgeret, & R. Crépel.* 319, 503, 98-F7 (1987)

PORTER, DAVID H. A Tree Code with Logarithmic Reduction of Force Terms, Hierarchical Regularization of All Variables, and Explicit Accuracy Controls. *J. Garrett Jernigan & David H. Porter.* 71, 871, 48-C9 (1989)

PORTER, J. G. Microflares in the Solar Magnetic Network. *J. G. Porter, R. L. Moore, E. J. Reichmann, E. Engvold, & K. L. Harvey.* 323, 380, 157-C5 (1987)

PORTER, J. L. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2–2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

PORTER, N. A. Pulsed TeV Gamma Rays Detected from Hercules X-1 during X-Ray Source Eclipse. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 308, L11, 113-F6 (1986)

Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 309, 114, 121-C4 (1986)

TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

PORTILLA, M. Proper Motion Effects on the Timing of an Orbiting Pulsar. *M. Portilla & J. L. Sanz.* 309, 110, 121-B14 (1986)

PORTILLA, MIQUEL. On the Proper Motion of the Binary Pulsar PSR 1913+16. *Enric Marco & Miquel Portilla.* 310, 719, 141-G5 (1986)

On the Timing Formula for Isolated Pulsars: The Case of Bunching Emission. *Xavier Barcons, Miquel Portilla, & José L. Sanz.* 331, 397, 110-F1 (1988)

On the Apsidal Motion of DI Herculis. *Rafael Company, Miquel Portilla, & Alvaro Giménez.* 335, 962, 183-C4 (1988)

The Lens Effect of a Big Spherical Inhomogeneity in the Linear Approximation. *José Moreno & Miquel Portilla.* 352, 399, 56-B1 (1990)

PORTUGAL, R. Magnetohydrodynamic Cosmologies with a Bertotti-Robinson–like Limit. *R. Portugal & I. Damiao Soares.* 316, 483, 57-C9 (1987)

POSPIESZALSKI, M. W. 15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Staveri, & M. J. Maher.* 358, 350, 126-D5 (1990)

POSTMAN, M. A Deep Abell Cluster Redshift Survey. *J. P. Huchra, J. P. Henry, M. Postman, & M. J. Geller.* 365, 66, 206-G1 (1990)

POSTMAN, MARC. Is There Structure on the Scale of $300h^{-1}$ Mpc? *Marc Postman, David N. Spergel, Brian Sutin, & Roman Juszkiewicz.* 346, 588, 174-F10 (1989)

IRAS Galaxies and the Large-Scale Structure in the CfA Slice. *Arif Babul & Marc Postman.* 359, 280, 139-E4 (1990)

POTASH, R. I. The Linear Polarization of 3C 345 at Milliarcsecond Resolution. *J. F. C. Wardle, D. H. Roberts, R. I. Potash, & A. E. E. Rogers.* 304, L1, 61-A4 (1986)

POTGIETER, M. S. Acceleration of Cosmic Rays in the Solar Wind Termination Shock. I. A Steady State Technique in a Spherically Symmetric Model. *M. S. Potgieter & H. Moraal.* 330, 445, 95-C1 (1988)

The Calculation of Neutral Sheet Drift in Two-dimensional Cosmic-Ray Modulation Models. *R. A. Burger & M. S. Potgieter.* 339, 501, 56-B5 (1989)

A New Calculation of the Cosmic-Ray Antiproton Spectrum in the Galaxy and Heliospheric Modulation Effects on This Spectrum Using a Drift Plus Wavy Current Sheet Model. *W. R. Webber & M. S. Potgieter.* 344, 779, 144-A3 (1989)

A Comparison of Predictions of a Wavy Neutral Sheet Drift Model with Cosmic-Ray Data over a Whole Modulation Cycle: 1976–1987. *W. R. Webber, M. S. Potgieter, & R. A. Burger.* 349, 634, 23-B5 (1990)

A Time-dependent Drift Model for the Long-Term Modulation of Cosmic Rays with Special Reference to Asymmetries with Respect to the Solar Minimum of 1987. *J. A. le Roux & M. S. Potgieter.* 361, 275, 160-C11 (1990)

POTTASCH, S. R. Circumnebular Neutral Hydrogen in Planetary Nebulae. *A. R. Taylor, G. T. Gussie, & S. R. Pottasch.* 351, 515, 46-E1 (1990)

POTTER, CHRIS T. The Long-Period Field RR Lyrae Stars. *Edward G. Schmidt, Charles G. Loomis, Andrew T. Groebner, & Chris T. Potter.* 360, 604, 153-F7 (1990)

POTTER, MICHAEL. First Optical Candidate for a Recovered Classical Nova in a Globular Cluster: Nova 1938 in M14. *Michael M. Shara, Anthony F. J. Moffat, Michael Potter, Helen S. Hogg, & Amelia Wehlau.* 311, 796, 156-D9 (1986)

A CCD Search for Faint Variables in the Field of an ω Centauri Low-Luminosity X-Ray Source, and in 47 Tucanae. *Michael M. Shara, Janusz Kaluzny, Michael Potter, & Anthony F. J. Moffat.* 328, 594, 69-E12 (1988)

POUND, MARC W. G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)

Subparsec Clumping in the Nearby Molecular Cloud MBM 12. *Marc W. Pound, T. M. Bania, & R. W. Wilson.* 351, 165, 40-B1 (1990)

PRADERIE, FRANÇOISE. Short-Term Spectral Variability in AB Aurigae: Clues for Activity in Herbig Ae Stars. I. The Ultraviolet Lines of Mg II and Fe II. *Françoise Praderie, Theodore Simon, Claude Catala, & Ann Merchant Boesgaard.* 303, 311, 44-D13 (1986)

PRADHAN, A. K. High-Resolution X-Ray Spectroscopic Evidence on Nonequlibrium Conditions in the Cygnus Loop. *P. W. Vedder, C. R. Canizares, T. H. Markert, & A. K. Pradhan.* 307, 269, 98-A3 (1986)

Electron Excitation of Fine-Structure Transitions within the Ground $3s^23p^3$ Configuration in Fe XII. *S. S. Tayal, Ronald J. W. Henry, & A. K. Pradhan.* 319, 951, 105-C13 (1987)

PRADHAN, ANIL K. Oscillator Strengths for Si II. *Ding Luo, Anil K. Pradhan, & J. Michael Shull.* 335, 498, 176-C9 (1988)

PRAKASH, MADAPPA. Rapidly Rotating Pulsars and the Equation of State. *James M. Lattimer, Madappa Prakash, Dieter Masak, & Amos Yahil.* 355, 241, 89-G10 (1990)

PRANTZOS, N. Nucleosynthesis and Evolution of Massive Stars with Mass Loss and Overshooting. *N. Prantzos, C. Doom, M. Arnould, & C. de Loore.* 304, 695, 63-E12 (1986)

Neutron Capture Nucleosynthesis during Core Helium Burning in Massive Stars. *N. Prantzos, M. Arnould, & J.-P. Arcoragi.* 315, 209, 42-C6 (1987)

PRANTZOS, NIKOS. On the Production of ^{26}Al by Wolf-Rayet Stars: Galactic Yield and Gamma-Ray Line Emissivity. *Nikos Prantzos & Michel Cassé.* 307, 324, 98-E14 (1986)

Slow Neutron Capture Nucleosynthesis in the Progenitor of SN 1987A. *Nikos Prantzos, Marcel Arnould, & Michel Cassé.* 331, L15, 114-B6 (1988)

PRASAD, C. V. V. The First Negative ($B^2\Sigma_u^+$–$X^2\Sigma_g^+$) System of $^{15}N_2^+$. *S. Paddi Reddy & C. V. V. Prasad.* 331, 572, 112-F8 (1988)

The First Negative ($B^2\Sigma_u^+$–$X^2\Sigma_g^+$) System of $^{15}N_2^+$. *S. Paddi Reddi & C. V. V. Prasad.* 337, 579, 24-F5 (1989) (Orig. paper in 331, 572, 112-F8 (1988))

PRASAD, S. S. Modeling the Chemistry of Dense Interstellar Clouds. I. Observational Constraints for the Chemistry. *S. R. Federman, W. T. Huntress, Jr., & S. S. Prasad.* 354, 504, 82-F1 (1990)

PRATAP, P. High-Resolution Molecular Observations of NGC 7538 IRS 1. *P. Pratap, W. Batrla, & L. E. Snyder.* 351, 530, 46-F5 (1990)

PRATAP, PREETHI. Interferometric Observations of the 1–0 Transition of HCO^+ toward NGC 7538 IRS 1. *Wolfgang Batrla, Preethi Pratap, & Lewis E. Snyder.* 330, L67, 97-A6 (1988)

Masers and Molecules near the Unusual Formaldehyde Maser NGC 7538 IRS 1. *Preethi Pratap, Wolfgang Batrla, & L. E. Snyder.* 341, 832, 95-E1 (1989)

PRATHER, MICHAEL J. The Role of Aqueous Chemistry in Determining the Composition and Cloud Structure of the Upper Troposphere of Uranus. *Barbara E. Carlson, Michael J. Prather, & William B. Rossow.* 321, L97, 130-B3 (1987)

Cloud Chemistry on Jupiter. *Barbara E. Carlson, Michael J. Prather, & William B. Rossow.* 322, 559, 144-A11 (1987)

PRAVDO, STEVEN H. X-Rays from the Magnetic White Dwarf PG 1658+441. *Steven H. Pravdo, Francis E. Marshall, Nick E. White, & Paolo Giommi.* 300, 819, 12-B8 (1986)

H1504+65: An Extraordinarily Hot Compact Star Devoid of Hydrogen and Helium. *J. A. Nousek, Harry L. Shipman, J. B. Holberg, James Liebert, Steven H. Pravdo, N. E. White, & Paolo Giommi.* 309, 230, 122-D9 (1986)

Observation of the HH 1 and 2 Region with *IRAS*. *Steven H. Pravdo & Thomas J. Chester.* 314, 308, 31-D13 (1987)

PREDMORE, C. R. VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)

Linear Polarization of Millimeter-Wave Emission Lines in Clouds without Large Velocity Gradients. *D. C. Lis, P. F. Goldsmith, R. L. Dickman, C. R. Predmore, A. Omont, & J. Cernicharo.* 328, 304, 65-C7 (1988)

Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)

VLBI and Polarimetric Observations of the SiO Masers in R Cassiopeiae. *G. C. McIntosh, C. R. Predmore, J. M. Moran, L. J. Greenhill, A. E. E. Rogers, & R. Barvainis.* 337, 934, 30-D9 (1989)

Search for Circular Polarization of HCN Maser Emission in CIT 6. *D. C. Lis, P. F. Goldsmith, & C. R. Predmore.* 341, 823, 95-D2 (1989)

Polarization of the $\lambda = 1.3$ Millimeter Continuum Radiation from the Kleinmann-Low Nebula. *G. Novak, C. R. Predmore, & P. F. Goldsmith.* 355, 166, 89-A7 (1990)

PREECE, ROBERT. Quantized Synchrotron Radiation in Strong Magnetic Fields. *Alice K. Harding & Robert Preece.* 319, 939, 105-C1 (1987)

PREECE, ROBERT D. Cyclotron Scattering Lines in Gamma-Ray Burst Spectra. *Alice K. Harding & Robert D. Preece.* 338, L21, 40-D4 (1989)

Nonthermal Synchrotron Radiation and Pair Annihilation in Gamma-Ray Bursts. *Robert D. Preece & Alice K. Harding.* 347, 1128, 197-E13 (1989)

PRESKILL, JOHN. The Significance of Voids. *S. Otto, H. David Politzer, John Preskill, & Mark B. Wise.* 304, 62, 54-E11 (1986)

PRESNELL, A. K. The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)

PRESS, W. H. Is Solar Neutrino Capture Rate Correlated with Sunspot Number? *J. N. Bahcall, G. B. Field, & W. H. Press.* 320, L69, 114-F1 (1987)

Dynamic Mass Exchange in Doubly Degenerate Binaries. I. 0.9 and 1.2 $M_\odot$ Stars. *W. Benz, R. L. Bowers, A. G. W. Cameron, & W. H. Press.* 348, 647, 10-F5 (1990)

PRESS, WILLIAM H. Solar Models with Energy Transport by Weakly Interacting Particles. *Ronald L. Gilliland, John Faulkner, William H. Press, & David N. Spergel.* 306, 703, 92-C3 (1986)

Choice of Order and Extrapolation Method in Aarseth-Type *N*-Body Algorithms. *William H. Press & David N. Spergel.* 325, 715, 28-D3 (1988)

Surfaces of Constant Redshift in an Inflationary Universe. *Alan P. Lightman & William H. Press.* 337, 598, 26-E1 (1989)

Fast Algorithm for Spectral Analysis of Unevenly Sampled Data. *William H. Press & George B. Rybicki.* 338, 277, 36-D1 (1989)

Dynamical Evolution of Domain Walls in an Expanding Universe. *William H. Press, Barbara S. Ryden, & David N. Spergel.* 347, 590, 190-E3 (1989)

The Evolution of Networks of Domain Walls and Cosmic Strings. *Barbara S. Ryden, William H. Press, & David N. Spergel.* 357, 293, 116-C1 (1990)

PRESTAGE, RICHARD M. V795 Herculis (PG 1711+336): A New Intermediate Polar in the Period Gap. *Allen W. Shafter, Edward L. Robinson, David Crampton, Brian Warner, & Richard M. Prestage.* 354, 708, 85-B1 (1990)

PRESTON, GEORGE W. A Catalog of Candidate Field Horizontal-Branch Stars. I. *Timothy C. Beers, George W. Preston, & Stephen A. Shectman.* 67, 461, 18-D1 (1988)

A Catalog of Candidate Field Horizontal-Branch Stars. I: Erratum. *Timothy C. Beers, George W. Preston, & Stephen A. Shectman.* 70, 679, 28-A1 (1989) (Orig. paper in 67, 461, 18-D1 (1988))

PRESTON, R. A. VLBI Observations of 23 Hot Spots in the Starburst Galaxy M82. *N. Bartel, M. I. Ratner, A. E. E. Rogers, I. I. Shapiro, R. J. Bonometti, N. L. Cohen, M. V. Gorenstein, J. M. Marcaide, & R. A. Preston.* 323, 505, 160-B3 (1987)

VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

PRESTON, ROBERT A. Dual Frequency and Dual Polarization VLBI Observations of the Stellar System Algol. *Jean-François Lestrade, Robert L. Mutel, Robert A. Preston, & Robert B. Phillips.* 328, 232, 64-E1 (1988)

PREUSS, E. Superluminal Motion in the Giant Quasar 4C 34.47. *P. D. Barthel, J. R. Hooimeyer, R. T. Schilizzi, G. K. Miley, & E. Preuss.* 336, 601, 10-A9 (1989)

PRIALNIK, DINA. The Evolution of a Classical Nova Model through a Complete Cycle. *Dina Prialnik.* 310, 222, 134-D14 (1986)

Rapid Accretion and Hibernation in the Preoutburst History of Classical Novae. *Dina Prialnik & Michael M. Shara.* 311, 172, 147-G12 (1986)

On the Evolution and Activity of Cometary Nuclei. *Dina Prialnik & Akiva Bar-Nun.* 313, 893, 26-E3 (1987)

Radiogenic Heating of Comets by ^{26}Al and Implications for Their Time of Formation. *Dina Prialnik, Akiva Bar-Nun, & Morris Podolak.* 319, 993, 105-G1 (1987)

The Possible Formation of a Hydrogen Coma around Comets at Large Heliocentric Distances. *Akiva Bar-Nun & Dina Prialnik.* 324, L31, 9-C4 (1988)

What Does an Erupting Nova Do to Its Red Dwarf Companion? *Attay Kovetz, Dina Prialnik, & Michael M. Shara.* 325, 828, 29-E10 (1988)

Accretion Heating and Thermonuclear Runaways on the Surfaces of Iron White Dwarfs. *Dina Prialnik, Attay Kovetz, & Michael M. Shara.* 339, 1013, 64-C1 (1989)

Accretion onto Hot White Dwarfs in Relation to Symbiotic Novae. *Mario Livio, Dina Prialnik, & Oded Regev.* 341, 299, 87-E8 (1989)

Heating and Melting of Small Icy Satellites by the Decay of ^{26}Al. *Dina Prialnik & Akiva Bar-Nun.* 355, 281, 90-D1 (1990)

Evaporation from a Porous Cometary Nucleus. *Yuri Mekler, Dina Prialnik, & Morris Podolak.* 356, 682, 108-F6 (1990)

Gas Release in Comet Nuclei. *Dina Prialnik & Akiva Bar-Nun.* 363, 274, 185-E1 (1990)

PRICE, C. The Absorption-Line Spectrum of GC 1556+335: Ejected or Intervening Material? *Simon L. Morris, Ray J. Weymann, Craig B. Foltz, D. A. Turnshek, S. Shectman, C. Price, & T. A. Boroson.* 310, 40, 132-D12 (1986)

PRICE, CHANNON P. Comet–Solar Wind Interaction through Ion-Proton Beam Instability. *Channon P. Price & L. C. Lee.* 324, 606, 8-A4 (1988)

PRICE, JILL S. Optical and Infrared Surface Photometry of NGC 3077. *Jill S. Price & Craig A. Gullixson.* 337, 658, 27-B10 (1989)

PRICE, P. B. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

A Search for Charged Massive Particles in *IMP 8* Data. *D. P. Snowden-Ifft, S. W. Barwick, & P. B. Price.* 364, L25, 205-C1 (1990)

PRICE, ROB. Radio Evolution of Quasars at $z < 1$. *J. B. Hutchings, Rob Price, & Ann C. Gower.* 329, 122, 76-C11 (1988)

PRICE, S. D. *IRAS* Large-Beam and Ground-Based Small-Beam Measurements of the Unidentified 11.3 and [Ne II] 12.8 Micron Line Fluxes in the Starburst Galaxy M82. *P. D. LeVan & S. D. Price.* 312, 592, 9-D1 (1987)

PRICE, T. R. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2–2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

PRIEDHORSKY, W. Long-Term Observations of Cygnus X-3 with *Vela 5B*. *W. Priedhorsky & J. Terrell.* 301, 886, 25-C13 (1986)

Bimodal Quasi-oscillatory and Spectral Behavior in Scorpius X-1. *W. Priedhorsky, G. Hasinger, W. H. G. Lewin, J. Middleditch, A. Parmar, L. Stella, & N. White.* 306, L91, 94-A10 (1986)

Torque and Energy Exchange between an Accretion Disk and a Rapidly Spinning Neutron Star. *W. Priedhorsky.* 306, L97, 94-B2 (1986)

The Discovery of a Second Orbital Period from the X-Ray Source 4U 1820−30 in the Globular Cluster NGC 6624. *L. Stella, W. Priedhorsky, & N. E. White.* 312, L17, 7-B4 (1987)

The Discovery of 15–30 Hertz Quasi-periodic Oscillations in the X-Ray flux of 4U 1820−30. *L. Stella, N. E. White, & W. Priedhorsky.* 315, L49, 45-E3 (1987)

Observations of the X-Ray Transient 4U 0115+63. *L. Whitlock, D. Roussel-Dupré, & W. Priedhorsky.* 338, 381, 37-F3 (1989)

Observations of the X-Ray Transient 4U 0115+63: Erratum. *L. Whitlock, D. Roussel-Dupré, & W. Priedhorsky.* 344, 1051, 147-C1 (1989) (Orig. paper in 338, 381, 37-F3 (1989))

PRIEDHORSKY, W. C. Discovery of Rapid Quasi-periodic Oscillations in Scorpius X-1. *J. Middleditch & W. C. Priedhorsky.* 306, 230, 83-F13 (1986)

Search for Orbital X-Ray Variation in Scorpius X-1. *W. C. Priedhorsky & S. S. Holt.* 312, 743, 11-A13 (1987)

EXOSAT Observations of Double-peaked Bursts with Radius Expansion from 4U/MXB 1820−30. *F. Haberl, L. Stella, N. E. White, W. C. Priedhorsky, & M. Gottwald.* 314, 266, 31-A9 (1987)

A Third X-Ray Spectral Mode in Scorpius X-1: Similarities to the Other Bright Bulge Sources. *G. Hasinger, W. C. Priedhorsky, & J. Middleditch.* 337, 843, 29-D4 (1989)

PRIEDHORSKY, WILLIAM C. Tidal Forces and Mass Transfer Instabilities in Low-Mass X-Ray Binaries. *William C. Priedhorsky & Frank Verbunt.* 333, 895, 150-B2 (1988)

PRIEST, E. R. Viscous Normal Modes on Coronal Inhomogeneities and Their Role as a Heating Mechanism. *R. S. Steinolfson, E. R. Priest, S. Poedts, L. Nocera, & M. Goosens.* 304, 526, 59-F3 (1986)

The Initiation of Solar Coronal Mass Ejections by Magnetic Nonequilibrium. *E. R. Priest.* 328, 848, 72-D12 (1988)

Nonuniform Magnetohydrodynamic Nature of the Solar Corona. I. Basic Solutions. *E. R. Priest.* 329, 1009, 88-B8 (1988)

The Nonuniform Magnetohydrodynamic Nature of the Solar Corona. II. Generalization of Basic Solutions. *A. de Ville & E. R. Priest.* 340, 579, 74-D5 (1989)

A Twisted Flux-Tube Model for Solar Prominences. I. General Properties. *E. R. Priest, A. W Hood, & U. Anzer.* 344, 1010, 146-E1 (1989)

The Nonuniform Magnetohydrodynamic Nature of the Solar Corona. III. Cylindrical Geometry. *A. de Ville & E. R. Priest.* 347, 1167, 198-B5 (1989)

The Nonuniform Magnetohydrodynamic Nature of the Solar Corona. IV. Effect of Magnetogravity Interactions. *A. de Ville & E. R. Priest.* 359, 560, 143-A4 (1990)

PRIETO, ALMUDENA. Relation between the Ionizing Continuum and the Emission Lines in Fairall 9. *Luc Binette, Almudena Prieto, Ewa Szuszkiewicz, & Wei Zheng.* 343, 135, 119-G3 (1989)

PRIEUR, J.-L. Surface Photometry of Shell Galaxies. *B. P. Fort, J.-L. Prieur, D. Carter, S. J. Meatheringham, & L. Vigroux.* 306, 110, 82-D9 (1986)

The Shell System around NGC 3923 and Its Implications for the Potential of the Galaxy. *J.-L. Prieur.* 326, 596, 40-B1 (1988)

PRIMACK, JOEL R. Contraction of Dark Matter Galactic Halos Due to Baryonic Infall. *George R. Blumenthal, S. M. Faber, Ricardo Flores, & Joel R. Primack.* 301, 27, 14-C6 (1986)

Very Large Scale Structure in an Open Cosmology of Cold Dark Matter and Baryons. *George R. Blumenthal, Avishai Dekel, & Joel R. Primack.* 326, 539, 39-D9 (1988)

Projection Contamination in Cluster Catalogs: Are the Abell Redshift Sample Correlations Significant? *Avishai Dekel, George R. Blumenthal, Joel R. Primack, & Scot Olivier.* 338, L5, 40-B11 (1989)

Angular Correlations in Decontaminated Abell Catalogs. *Scot Olivier, George R. Blumenthal, Avishai Dekel, Joel R. Primack, & David Stanhill.* 356, 1, 99-B1 (1990)

PRINCE, T. A. An Imaging Observation of SN 1987A at Gamma-Ray Energies. *W. R. Cook, D. M. Palmer, T. A. Prince, S. M. Schindler, C. H. Starr, & E. C. Stone.* 334, L87, 169-D12 (1988)

PRINGLE, J. E. A Phenomenological Triple Star Scenario for SS 433. *A. C. Fabian, P. P. Eggleton, P. Hut, & J. E. Pringle.* 305, 333, 70-F11 (1986)

The Formation of the Exponential Disk in Spiral Galaxies. *D. N. C. Lin & J. E. Pringle.* 320, L87, 121-B6 (1987)

The Link between Tidal Interaction and Nuclear Activity in Galaxies. *D. N. C. Lin, J. E. Pringle, & M. J. Rees.* 328, 103, 63-B6 (1988)

Polarization of Thermal Radiation from Accretion Disks in Dwarf Novae. *F. H. Cheng, G. A. Shields, D. N. C. Lin, & J. E. Pringle.* 328, 223, 64-D4 (1988)

The Formation and Initial Evolution of Protostellar Disks. *D. N. C. Lin & J. E. Pringle.* 358, 515, 130-A1 (1990)

Changes in the Orbital Periods of Close Binary Stars. *T. R. Marsh & J. E. Pringle.* 365, 677, 216-F1 (1990)

PRINJA, RAMAN K. Narrow Absorption Components and Variability in Ultraviolet P Cygni Profiles of Early-Type Stars. *Raman K. Prinja & Ian D. Howarth.* 61, 357, 22-B10 (1986)

Ultraviolet Observations of Extensive Variability in the Stellar Wind of ζ Persei. *Raman K. Prinja, Ian D. Howarth, & Huib F. Henrichs.* 317, 389, 68-B11 (1987)

The Stellar Winds of 203 Galactic O Stars: A Quantitative Ultraviolet Survey. *Ian D. Howarth & Raman K. Prinja.* 69, 527, 9-C1 (1989)

Terminal Velocities for a Large Sample of O Stars, B Supergiants, and Wolf-Rayet Stars. *Raman K. Prinja, M. J. Barlow, & Ian D. Howarth.* 361, 607, 165-E9 (1990)

PRINN, RONALD G. Chemical Models of the Deep Atmosphere of Uranus. *Bruce Fegley, Jr., & Ronald G. Prinn.* 307, 852, 106-C8 (1986)

Chemical Constraints on the Water and Total Oxygen Abundances in the Deep Atmosphere of Jupiter. *Bruce Fegley, Jr., & Ronald G. Prinn.* 324, 621, 8-B8 (1988)

The Predicted Abundances of Deuterium-bearing Gases in the Atmospheres of Jupiter and Saturn. *Bruce Fegley, Jr., & Ronald G. Prinn.* 326, 490, 37-F1 (1988)

On Neglect of Nonlinear Momentum Terms in Solar Nebula Accretion Disk Models. *Ronald G. Prinn.* 348, 725, 11-D12 (1990)

PRINZHOFER, A. The Presence of ^{146}Sm in the Early Solar System and Implications for Its Nucleosynthesis. *A. Prinzhofer, D. A. Papanastassiou, & G. J. Wasserburg.* 344, L81, 148-D10 (1989)

PRITCHET, C. J. A Search for Primeval Galaxies Using a Narrow-Band Imaging Technique. *C. J. Pritchet & F. D. A. Hartwick.* 320, 464, 114-E2 (1987)

Stellar Populations in the Inner Halo of M31. *C. J. Pritchet & Sidney van den Bergh.* 331, 135, 107-E1 (1988)

The Crab Synchrotron Nebula at 0.″5 Resolution. *Sidney van den Bergh & C. J. Pritchet.* 338, L69, 49-D5 (1989)

A Search for Primeval Galaxies at $z = 1.9$. *C. J. Pritchet & F. D. A. Hartwick.* 355, L11, 92-B7 (1990)

A Globular Cluster System Surrounding the cD Galaxy NGC 6166. *C. J. Pritchet & William E. Harris.* 355, 410, 93-E1 (1990)

PRITCHET, CHRISTOPHER J. Optical Studies of Cassiopeia A. VII. Search for a Stellar Remnant. *Sidney van den Bergh & Christopher J. Pritchet.* 307, 723, 104-G7 (1986)

Observations of RR Lyrae Stars in the Halo of M31. *Christopher J. Pritchet & Sidney van den Bergh.* 316, 517, 57-F2 (1987)

Observations of Novae in the Virgo Cluster. *Christopher J. Pritchet & Sidney van den Bergh.* 318, 507, 86-D7 (1987)

The Late-Type Stellar Content of NGC 55. *Christopher J. Pritchet, Harvey B. Richer, David Schade, Dennis Crabtree, & H. K. C. Yee.* 323, 79, 154-A3 (1987)

Late-Type Stars in an Inner and Far Disk Field of M31. *Harvey B. Richer, Dennis R. Crabtree, & Christopher J. Pritchet.* 355, 448, 94-A5 (1990)

PRITCHETT, P. L. Energy Transport by Energetic Electrons Released during Solar Flares. I. Thermal versus Nonthermal Processes. *R. M. Winglee, P. L. Pritchett, & G. A. Dulk.* 327, 968, 59-D12 (1988)

Fine Structure of Microwave Spike Bursts and Associated Cross-Field Energy Transport. *R. M. Winglee, G. A. Dulk, & P. L. Pritchett.* 328, 809, 72-A1 (1988)

Energy Transport by Energetic Electrons Released during Solar Flares. II. Current Filamentation and Plasma Heating. *R. M. Winglee, P. L. Pritchett, & G. A. Dulk.* 329, 440, 80-A1 (1988)

PROBST, R. The Luminosity Function in NGC 2023. *D. L. DePoy, E. A. Lada, Ian Gatley, & R. Probst.* 356, L55, 110-C5 (1990)

PROBST, RONALD. Possible Pleiades Members with $\mathcal{M} \cong 0.07\ \mathcal{M}_{\odot}$: Identification of Brown Dwarf Candidates of Known Age, Distance, and Metallicity. *John Stauffer, Donald Hamilton, Ronald Probst, George Rieke, & Mario Mateo.* 344, L21, 140-B13 (1989)

PROFFITT, CHARLES R. Theoretical Interpretations of Anomalous Cepheid Pulsations. *Arthur N. Cox & Charles R. Proffitt.* 324, 1042, 15-A5 (1988)

Stability and Mixing of Composition Inversions in Stellar Envelopes. *Charles R. Proffitt.* 338, 990, 46-B8 (1989)

Abundance Anomalies in A and B Stars and the Accretion of Nuclear-processed Material from Supernovae and Evolved Giants. *Charles R. Proffitt & Georges Michaud.* 345, 998, 163-A1 (1989)

Pre–Main-Sequence Depletion of ^{6}Li and ^{7}Li. *Charles R. Proffitt & Georges Michaud.* 346, 976, 179-C8 (1989)

Lithium Abundance in Cluster Giants: Constraints on Meridional Circulation Transport on the Main Sequence. *Paul Charbonneau, Georges Michaud, & Charles R. Proffitt.* 347, 821, 193-E7 (1989)

PROKAKIS, TH. The Observed Characteristics of Flare Energy Release. II. High-Speed Soft X-Ray Fronts. *Marcos E. Machado, Y. C. Xiao, S. T. Wu, Th. Prokakis, & D. Dialetis.* 326, 451, 37-C2 (1988)

PROSSER, JAMES. A Study of Upgren 1. *George Gatewood, Joost Kiewiet de Jonge, Michael Castelaz, Inwoo Han, Timothy Persinger, James Prosser, Thomas Reiland, & John Stein.* 332, 917, 134-D12 (1988)

PRÓSZYŃSKI, M. 2.7 K Radiation and the Isotropy of the Universe. *S. Bajtlik, R. Juszkiewicz, M. Prószyński, & P. Amsterdamski.* 300, 463, 8-C1 (1986)

Models of Radiation-driven Winds from General Relativistic Neutron Stars. *Bohdan Paczyński & M. Prószyński.* 302, 519, 36-C1 (1986)

A Cross-Correlation Analysis of Subpulse Drift in PSR 0809+74, PSR 1237+25, and PSR 1919+21. *M. Prószyński & A. Wolszczan.* 307, 540, 102-G6 (1986)

PROTHEROE, R. J. Constraints on Models of Cygnus X-3 from High-Energy Gamma-Ray Absorption at Source. *R. J. Protheroe & Todor Stanev.* 322, 838, 149-A8 (1987)

A Search for Ultra–High-Energy Gamma Rays from Supernova 1987A. *D. Ciampa, D. J. Bird, R. W. Clay, P. G. Edwards, & R. J. Protheroe.* 326, L9, 38-B1 (1988)

PROVENCAL, J. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

PROVENCAL, J. L. An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather, D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine.* 357, 204, 113-E7 (1990)

PRYOR, CARLTON. Detecting Thermal Neutrinos from Supernovae with DUMAND. *Carlton Pryor, Charles E. Roos, & Medford S. Webster.* 329, 335, 78-G1 (1988)

PTUSKIN, V. S. Diffusive Shock Acceleration of Cosmic Rays and Gamma Radiation from Young Supernova Shells. *V. S. Berezinsky & V. S. Ptuskin.* 340, 351, 71-D6 (1989)

PUCHALSKY, RICHARD. High-Resolution CO Images of Seyfert Galaxies. *Margaret Meixner, Richard Puchalsky, Leo Blitz, Melvyn Wright, & Tim Heckman.* 354, 158, 76-A1 (1990)

PUDRITZ, RALPH E. Bipolar Hydromagnetic Winds from Disks around Protostellar Objects. *Ralph E. Pudritz & Colin A. Norman.* 301, 571, 22-A1 (1986)

Ionization-regulated Star Formation in Magnetized Molecular Clouds. *Ralph E. Pudritz & Joseph Silk.* 316, 213, 52-C10 (1987)

A New Angular Momentum Loss Mechanism for Cataclysmic Variables. *John K. Cannizzo & Ralph E. Pudritz.* 327, 840, 57-G3 (1988)

A Magnetic Loop Model for Structure and Activity in the Galactic Center. *Jean Heyvaerts, Colin Norman, & Ralph E. Pudritz.* 330, 718, 100-D1 (1988)

The Origin of Magnetic Fields and Primordial Stars in Protogalaxies. *Ralph E. Pudritz & Joseph Silk.* 342, 650, 110-F1 (1989)

The Stability of Molecular Clouds. *Ralph E. Pudritz.* 350, 195, 27-D11 (1990)

Infrared Images of Protostellar Accretion Disks: Theoretical Models. *Bernard Lazareff, Ralph E. Pudritz, & Jean-Louis Monin.* 358, 170, 124-B6 (1990)

PUETTER, R. C. Variability of Markarian 1018: Seyfert 1.9 to Seyfert 1. *Ross D. Cohen, Richard J. Rudy, R. C. Puetter, T. B. Ake, & Craig B. Foltz.* 311, 135, 147-E2 (1986)

The Velocity Distribution of Quasar/AGN Broad Emission Line Clouds. *R. C. Puetter & E. N. Hubbard.* 320, 85, 109-A6 (1987)

He I λ10830 Observations of Seyfert 2 Galaxies. *Richard J. Rudy, Ross D. Cohen, George S. Rossano, R. C. Puetter, & Scott C. Chapman.* 341, 120, 85-D8 (1989)

Detection of the O I 11287 Å Line in the Seyfert 1 Galaxy I Zw 1. *Richard J. Rudy, George S. Rossano, & R. C. Puetter.* 342, 235, 103-F14 (1989)

The Near-Infrared Oxygen I Lines of the Planetary Nebula IC 4997. *Richard J. Rudy, George S. Rossano, & R. C. Puetter.* 346, 799, 177-C6 (1989)

Emission-Line Ratios at High Densities. *Wei Zheng & R. C. Puetter.* 361, 40, 157-E1 (1990)

Optical and Infrared Spectrophotometry of the Symbiotic System V1016 Cygni. *Richard J. Rudy, Ross D. Cohen, George S. Rossano, & R. C. Puetter.* 362, 346, 173-D7 (1990)

PUGET, J. L. Variations in the Abundance of Transiently Heated Particles within Nearby Molecular Clouds. *F. Boulanger, E. Falgarone, J. L. Puget, & G. Helou.* 364, 136, 195-F5 (1990)

PULLIN, JORGE A. Finite Perturbations on Perfect Fluid Friedmann-Robertson-Walker Models. *Mario Díaz, Reinaldo Gleiser, & Jorge A. Pullin.* 339, 1, 50-A9 (1989)

PULONE, L. The "Red Giant Clock" as an Indicator for the Efficiency of Central Mixing in Horizontal-Branch Stars. *F. Caputo, V. Castellani, A. Chieffi, L. Pulone, & A. Tornambè, Jr.* 340, 241, 70-A10 (1989)

Theoretical Models for Helium-burning Stars in Intermediate-Metallicity Globular Clusters. *V. Castellani, A. Chieffi, & L. Pulone.* 344, 239, 136-A3 (1989)

PUNSLY, B. Ergosphere-driven Winds. *B. Punsly & F. V. Coroniti.* 354, 583, 83-E5 (1990)

PUNSLY, BRIAN. Relativistic Winds from Pulsar and Black Hole Magnetospheres. *Brian Punsly & Ferdinand V. Coroniti.* 350, 518, 32-F6 (1990)

PURCELL, W. R. *SMM* Detection of Diffuse Galactic 511 keV Annihilation Radiation. *G. H. Share, R. L. Kinzer, J. D. Kurfess,*

D. C. Messina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin. 326, 717, 41-E1 (1988)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation: Erratum. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Massina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 331, 1078, 120-G4 (1988) (Orig. paper in 326, 717, 41-E1 (1988))

PURCELL, WILLIAM R. Limits on a Variable Source of 511 keV Annihilation Radiation near the Galactic Center. *Gerald H. Share, Mark D. Leising, Daniel C. Messina, & William R. Purcell.* 358, L45, 133-C3 (1990)

PUROHIT, P. Effect of Suspended Particles on Magnetogravitational Instability of a Finitely Conducting, Rotating, Hall Gas-Particle Medium. *R. K. Chhajlani & P. Purohit.* 300, 242, 3-F1 (1986)

PUSCHELL, J. J. The Strong UV Source in the Active E Galaxy NGC 4552. *R. W. O'Connell, T. X. Thuan, & J. J. Puschell.* 303, L37, 53-C1 (1986)

PUSCHELL, JEFFERY J. Near-Infrared Photometry and Stellar Populations of First-ranked Galaxies in a Complete Sample of Nearby Abell Clusters. *Trinh X. Thuan & Jeffery J. Puschell.* 346, 34, 166-E1 (1989)

PUTNEY, A. Evolution of Wide Binary Millisecond Pulsars in Globular Clusters. *S. Rappaport, A. Putney, & F. Verbunt.* 345, 210, 151-F10 (1989)

PUXLEY, P. J. Detection of H53α Emission from M82: A Reliable Measure of the Ionization Rate and Its Implications. *P. J. Puxley, P. W. J. L. Brand, T. J. T. Moore, C. M. Mountain, N. Nakai, & T. Yamashita.* 345, 163, 151-B1 (1989)

Molecular and Atomic Hydrogen Line Emission from Star-forming Galaxies. *P. J. Puxley, T. G. Hawarden, & C. M. Mountain.* 364, 77, 195-A1 (1990)

PYKE, R. Optical Images of Quasars and Radio Galaxies. *J. B. Hutchings, I. Johnson, & R. Pyke.* 66, 361, 8-B1 (1988)

QIAO, GUO-JUN. An Analysis on the Precession of the Accretion Disk on Hercules X-1. *Guo-jun Qiao & Jiu-heng Cheng.* 340, 503, 73-D11 (1989)

QUADRINI, E. Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)

QUADRINI, M. Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)

QUASHNOCK, JEAN M. Magnetic Field Generation during the Cosmological QCD Phase Transition. *Jean M. Quashnock, Abraham Loeb, & David N. Spergel.* 344, L49, 148-B1 (1989)

QUAST, GERMANO. Discovery of New Isolated T Tauri Stars. *Ramiro de la Reza, Carlos A. O. Torres, Germano Quast, Bruno V. Castilho, & Gladys L. Vieira.* 343, L61, 132-D1 (1989)

QUENBY, J. J. Particle Magnetic Moment Conservation and Resonance in a Pure Magnetohydrodynamic Shock and Field Inclination Influence on Diffusive Shock Acceleration. *R. Lieu & J. J. Quenby.* 350, 692, 34-F4 (1990)

Cosmic-Ray Gradient Measurements and Modulation beyond the Inner Solar Wind Termination Shock. *J. J. Quenby, J. A. Lockwood, & W. R. Webber.* 365, 365, 211-A1 (1990)

QUERCI, FRANÇOIS. Variability of Ultraviolet Emission in the Carbon Star TX Piscium. *Hollis R. Johnson, John H. Baumert, François Querci, & Monique Querci.* 311, 960, 158-D1 (1986)

QUERCI, MONIQUE. Variability of Ultraviolet Emission in the Carbon Star TX Piscium. *Hollis R. Johnson, John H. Baumert, François Querci, & Monique Querci.* 311, 960, 158-D1 (1986)

QUINLAN, GERALD D. The Collapse of Dense Star Clusters to Supermassive Black Holes: Binaries and Gravitational Radiation. *Gerald D. Quinlan & Stuart L. Shapiro.* 321, 199, 124-D2 (1987)

Dynamical Evolution of Dense Clusters of Compact Stars. *Gerald D. Quinlan & Stuart L. Shapiro.* 343, 725, 128-C3 (1989)

The Dynamical Evolution of Dense Star Clusters in Galactic Nuclei. *Gerald D. Quinlan & Stuart L. Shapiro.* 356, 483, 106-C9 (1990)

QUINN, P. J. Sinking Satellites of Spiral Systems. *P. J. Quinn & Jeremy Goodman.* 309, 472, 126-D5 (1986)

Shells and Dark Matter in Elliptical Galaxies. *Lars Hernquist & P. J. Quinn.* 312, 1, 1-A7 (1987)

Shell Galaxies and Alternatives to the Dark Matter Hypothesis. *Lars Hernquist & P. J. Quinn.* 312, 17, 1-B9 (1987)

Halos in Open and Closed Universes: Differentiated Merging and Natural Selection of Galaxy Types. *W. H. Zurek, P. J. Quinn, & J. K. Salmon.* 330, 519, 98-C1 (1988)

The Angular Momentum Distribution in Galactic Halos. *P. J. Quinn & W. H. Zurek.* 331, 1, 106-A9 (1988)

Formation of Shell Galaxies. I. Spherical Potentials. *Lars Hernquist & P. J. Quinn.* 331, 682, 116-C9 (1988)

Formation and Morphology of Shell Galaxies. II. Nonspherical Potentials. *Lars Hernquist & P. J. Quinn.* 342, 1, 101-A8 (1989)

The Formation of Counterrotating Cores in Elliptical Galaxies. *Marc Balcells & P. J. Quinn.* 361, 381, 162-G10 (1990)

QUINN, THOMAS. The Origin of Short-Period Comets. *Martin Duncan, Thomas Quinn, & Scott Tremaine.* 328, L69, 74-F9 (1988)

Planetary Perturbations and the Origin of Short-Period Comets. *Thomas Quinn, Scott Tremaine, & Martin Duncan.* 355, 667, 96-G9 (1990)

RABAEY, G. F. The Radial Dependence of the $P_2(\cos\theta)$ Component and the Scale Height of the $P_4(\cos\theta)$ Component of the Internal Rotation of the Sun. *H. A. Hill, G. F. Rabaey, D. S. Yakowitz, & R. D. Rosenwald.* 310, 444, 136-G1 (1986)

The Observed Properties of the Intermediate-Degree Gravity Modes. *G. F. Rabaey & H. A. Hill.* 362, 734, 180-A1 (1990)

RABIN, D. Infrared Imaging of Faculae at the Deepest Photospheric Layers. *P. Foukal, R. Little, J. Graves, D. Rabin, & D. Lynch.* 353, 712, 72-F1 (1990)

RABY, STUART. Cosmions and the Stability of the Solar Core. *Stuart Raby.* 347, 551, 188-G1 (1989)

Oscillations of Condensed-out Iron and Cosmion Solar Models. *Arthur N. Cox, Joyce A. Guzik, & Stuart Raby.* 353, 698, 72-E1 (1990)

RADFORD, SIMON J. E. A Search for the Sunyaev-Zel'dovich Effect at $\lambda = 3$ Millimeters. *Simon J. E. Radford, Paul E. Boynton, Bobby L. Ulich, R. Bruce Partridge, Robert A. Schommer, Antony A. Stark, Robert W. Wilson, & Stephen S. Murray.* 300, 159, 2-F13 (1986)

Dense Molecular Clouds and the Arp 220 Starburst. *P. M. Solomon, Simon J. E. Radford, & D. Downes.* 348, L53, 13-B5 (1990)

RADHAKRISHNAN, V. Toward an Empirical Theory of Pulsar Emission. V. On the Circular Polarization in Pulsar Radiation. *V. Radhakrishnan & Joanna M. Rankin.* 352, 258, 53-B3 (1990)

RADICK, RICHARD R. The Activity, Variability, and Rotation of Lower Main-Sequence Hyades Stars. *Richard R. Radick, D. T. Thompson, G. W. Lockwood, D. K. Duncan, & W. E. Baggett.* 321, 459, 127-B10 (1987)

The Magnetic, Basal, and Radiative Equilibrium Components in Mount Wilson Ca II H+K Fluxes. *C. J. Schrijver, Andrea K. Dobson, & Richard R. Radick.* 341, 1035, 98-A2 (1989)

Coronal Activity–Rotation Relations for Lower–Main-Sequence Stars. *Andrea K. Dobson & Richard R. Radick.* 344, 907, 145-D5 (1989)

The Activity, Variability, and Rotation of Lower Main-Sequence Members of the Coma Star Cluster. *Richard R. Radick, Brian A. Skiff, & G. W. Lockwood.* 353, 524, 70-D12 (1990)

RADOCINSKI, R. G. Gamma-Ray Observations of ^{56}Co in SN 1987A. *W. A. Mahoney, L. S. Varnell, A. S. Jacobson, J. C. Ling, R. G. Radocinski, & Wm. A. Wheaton.* 334, L81, 169-D5 (1988)

RADOSTITZ, J. V. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)

RAFFELT, GEORG. A Stellar Evolution Bound on Radiative Particle Decays and the Cosmic Microwave Background Distortion. *Georg Raffelt, David Dearborn, & Joseph Silk.* 336, 61, 1-G1 (1989)

Thermal Conduction by Massive Particles. *Andrew Gould & Georg Raffelt.* 352, 654, 59-B7 (1990)

Cosmion Energy Transfer in Stars: The Knudsen Limit. *Andrew Gould & Georg Raffelt.* 352, 669, 59-C9 (1990)
Dark Matter and Thermal Pulses in Horizontal-Branch Stars. *David Dearborn, Georg Raffelt, Pierre Salati, Joseph Silk, & Alain Bouquet.* 354, 568, 83-D3 (1990)
Thermal Relaxation Oscillations in Horizontal-Branch Stars. *Pierre Salati, Georg Raffelt, & David Dearborn.* 357, 566, 119-F1 (1990)

RAFFELT, GEORG G. Core Mass at the Helium Flash from Observations and a New Bound on Neutrino Electromagnetic Properties. *Georg G. Raffelt.* 365, 559, 215-B11 (1990)

RAGA, A. Spatially Resolved Spectra of HH 1 and Burnham's Nebula in the Range 3700 Å $\leq \lambda \leq$ 10830 Å. *J. Solf, K.-H. Böhm, & A. Raga.* 334, 229, 156-G5 (1988)

RAGA, A. C. "Strömgren Region" Analysis of Cometary H II Regions. *A. C. Raga.* 300, 745, 11-C9 (1986)
Kinematical and Hydrodynamical Study of the HH 32 Complex. *J. Solf, K.-H. Böhm, & A. C. Raga.* 305, 795, 77-E10 (1986)
Predicted Long-Slit, High-Resolution Emission-Line Profiles from Interstellar Bow Shocks. II. Arbitrary Bow Shock Orientation. *A. C. Raga & K.-H. Böhm.* 308, 829, 118-A7 (1986)
Ultraviolet Spectra of HH 1 and HH 2: Spatial Variations and the Continuum Problem. *K.-H. Böhm, Th. Bührke, A. C. Raga, E. W. Brugel, A. N. Witt, & R. Mundt.* 316, 349, 53-G7 (1987)
Time-dependent Bow Shocks and the Condensation Structure of Herbig-Haro Objects. *A. C. Raga & K.-H. Böhm.* 323, 193, 155-B10 (1987)
Intensity Maps Predicted from Nonadiabatic Stellar Jet Models. *A. C. Raga.* 335, 820, 181-F3 (1988)
Collimation of Stellar Winds by Nonadiabatic De Laval Nozzles. *A. C. Raga & J. Cantó.* 344, 404, 138-A5 (1989)
Steady, Partially Ionized Stellar Jets. *A. C. Raga, L. Binette, & J. Cantó.* 360, 612, 153-G1 (1990)
Stellar Jets with Intrinsically Variable Sources. *A. C. Raga, J. Cantó, L. Binette, & N. Calvet.* 364, 601, 203-F1 (1990)

RAGA, ALEX. The Helium Abundance in the Population II Cepheid, W Virginis. *Alex Raga, George Wallerstein, & J. B. Oke.* 347, 1107, 197-C11 (1989)

RAGOZIN, E. N. Doppler-shifted Emission from Helium Ions Accelerated in Solar Flares. *Th. Peter, E. N. Ragozin, A. M. Urnov, D. B. Uskov, & D. M. Rust.* 351, 317, 42-A10 (1990)

RAITERI, C. M. On the Role of Low-Mass Asymptotic Giant Branch Stars in Producing a Solar System Distribution of *s*-Process Isotopes. *R. Gallino, M. Busso, G. Picchio, C. M. Raiteri, & A. Renzini.* 334, L45, 161-E5 (1988)
s-Process Nucleosynthesis: Classical Approach and Asymptotic Giant Branch Models for Low-Mass Stars. *F. Käppeler, R. Gallino, M. Busso, G. Picchio, & C. M. Raiteri.* 354, 630, 84-B7 (1990)

RAJEEV, M. R. Observations of Steady Flux of PeV–Energy Extensive Air Showers from Cygnus X-3 during 1984–1986. *S. C. Tonwar, N. V. Gopalakrishnan, M. R. Rajeev, & B. V. Sreekantan.* 330, L107, 104-G7 (1988)
Episodic Emission from Hercules X-1 at Energies Greater than 10^{14} eV: Observations with Ooty Extensive Air Shower Array during 1986. *S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, R. Srivatsan, & S. C. Tonwar.* 354, L13, 80-B8 (1990)

RAKHAMIMOV, CH. YU. Hard X-Ray Pulse Profile and Period Evaluation of A0535+26 and GX 1+4 as Observed by the Franco-Soviet Signe Satellite Experiments. *A. Refloc'h, G. Chambon, M. Niel, G. Vedrenne, & Ch. Yu. Rakhamimov.* 310, 773, 142-D3 (1986)

RAKOS, KARL D. Narrow-Band Photometry and the Evolution of Galaxies. II. Results for the Fields of A115 and A227. *Karl D. Rakos, Norbert Fiala, & James M. Schombert.* 328, 463, 68-B1 (1988)

RALSTON, JOHN P. Has Dark Matter Decay Been Detected? *Adrian L. Melott, Douglas W. McKay, & John P. Ralston.* 324, L43, 18-B1 (1988)

RAMANAMURTHY, P. V. A Possible Very High Energy Gamma-Ray Burst from Hercules X-1. *P. R. Vishwanath, P. N. Bhat, P. V. Ramanamurthy, & B. V. Sreekantan.* 342, 489, 106-F11 (1989)

RAMANI, A. On the Closure of the Hierarchy of Galaxy Correlation Function in Phase Space. *D. Hansel, F. R. Bouchet, R. Pellat, & A. Ramani.* 310, 23, 132-C5 (1986)

RAMATY, R. High-Energy Processes in Solar Flares. *R. J. Murphy, C. D. Dermer, & R. Ramaty.* 63, 721, 11-D13 (1987)
On the Origin of the Pion-Decay Radiation in the 1982 June 3 Solar Flare. *R. Ramaty, R. J. Murphy, & C. D. Dermer.* 316, L41, 56-D3 (1987)
Positrons from Accelerated Particle Interactions. *B. Kozlovsky, R. E. Lingenfelter, & R. Ramaty.* 316, 801, 60-G6 (1987)
Gamma-Ray Spectroscopic Tests for the Anisotropy of Accelerated Particles in Solar Flares. *R. J. Murphy, B. Kozlovsky, & R. Ramaty.* 331, 1029, 120-C8 (1988)
Solar Neon Abundances from Gamma-Ray Spectroscopy and ^{3}He-rich Particle Events. *D. V. Reames, R. Ramaty, & T. T. von Rosenvinge.* 332, L87, 137-E1 (1988)
De-Excitation Gamma-Ray Line Emission from Solar Flare Magnetic Loops. *X.-M. Hua, R. Ramaty, & R. E. Lingenfelter.* 341, 516, 90-C2 (1989)
^{7}Li and ^{7}Be De-Excitation Lines: Probes for Accelerated Particle Transport Models in Solar Flares. *R. J. Murphy, X.-M. Hua, B. Kozlovsky, & R. Ramaty.* 351, 299, 41-G1 (1990)
Ion and Relativistic Electron Transport in Solar Flares. *R. Ramaty, J. A. Miller, X.-M. Hua, & R. E. Lingenfelter.* 73, 199, 20-D9 (1990)

RAMATY, REUVEN. Directionality of Bremsstrahlung from Relativistic Electrons in Solar Flares. *Charles D. Dermer & Reuven Ramaty.* 301, 962, 26-C5 (1986)
The Nature of the Annihilation Radiation and Gamma-Ray Continuum from the Galactic Center Region. *Richard E. Lingenfelter & Reuven Ramaty.* 343, 686, 127-F2 (1989)
Relativistic Electron Transport and Bremsstrahlung Production in Solar Flares. *James A. Miller & Reuven Ramaty.* 344, 973, 146-B3 (1989)
Stochastic Fermi Acceleration in Solar Flares. *James A. Miller, Nidhal Guessoum, & Reuven Ramaty.* 361, 701, 166-G1 (1990)

RAMELLA, M. Relationship between Optical and X-Ray Properties of O-Type Stars Surveyed with the *Einstein Observatory*. *S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., M. Ramella, C. Morossi, R. Rosner, & J. H. M. M. Schmitt.* 361, 621, 165-F11 (1990)

RAMELLA, MASSIMO. Groups of Galaxies in the Center for Astrophysics Redshift Survey. *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 344, 57, 133-F7 (1989)
The Two-Point Correlation Function for Groups of Galaxies in the Center for Astrophysics Redshift Survey. *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 353, 51, 62-F7 (1990)

RAMSAY, MARY ELIZABETH. Lithium in the Pleiades and α Persei Clusters. *Ann Merchant Boesgaard, Kent G. Budge, & Mary Elizabeth Ramsay.* 327, 389, 51-C2 (1988)

RAMSEY, B. D. Observations of Quasi-periodic Oscillations from GX 5−1 and Cygnus X-2 with the *Einstein* (*HEAO 2*) Observatory. *R. F. Elsner, M. C. Weisskopf, W. Darbro, B. D. Ramsey, A. C. Williams, P. G. Sutherland, & J. E. Grindlay.* 308, 655, 116-B7 (1986)

RAMSEY, LAWRENCE W. CCD Echelle Observations of the Active RS CVn System II Pegasi. *David P. Huenemoerder & Lawrence W. Ramsey.* 319, 392, 97-D5 (1987)
A Flare Event on the Long-Period RS Canum Venaticorum System IM Pegasi. *Derek L. Buzasi, Lawrence W. Ramsey, & David P. Huenemoerder.* 322, 353, 141-F8 (1987)
Coordinated Optical and Ultraviolet Observations of IM Pegasi. *David P. Huenemoerder, Lawrence W. Ramsey, & Derek L. Buzasi.* 350, 763, 35-D13 (1990)
Fiber-optic Echelle CCD Observations of SS Bootis. *Jeffrey C. Hall, David P. Huenemoerder, Lawrence W. Ramsey, & Derek L. Buzasi.* 358, 610, 131-B3 (1990)

RAND, RICHARD J. The Local Galactic Magnetic Field. *Richard J. Rand & Shrinivas R. Kulkarni.* 343, 760, 128-F1 (1989)
M51: Molecular Spiral Arms, Giant Molecular Associations, and Superclouds. *Richard J. Rand & Shrinivas R. Kulkarni.* 349, L43, 24-B6 (1990)
The Distribution of Warm Ionized Gas in NGC 891. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 352, L1, 55-A7 (1990)
The Distribution of Warm Ionized Gas in NGC 891: Erratum. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 362, L35, 174-D7 (1990) (Orig. paper in 352, L1, 55-A7 (1990))

RANDICH, MARIA SOFIA. High-Resolution, Far-Infrared Observations of NGC 2071. *Harold M. Butner, Neal J. Evans II, Paul M. Harvey, Lee G. Mundy, Antonella Natta, & Maria Sofia Randich.* 364, 164, 196-B1 (1990)

RANGACHARYULU, C. Radiative Transitions in ^{27}Al and Their Relevance to the ^{26}Al$(p,\gamma)^{27}$Si Reaction under Stellar Conditions. *C. Rangacharyulu, G. Kuechler, A. Richter, & E. Spamer.* 320, 405, 112-D9 (1987)

RANGARAJAN, K. E. Effect of the Time Spent by the Photon in the Absorbed State on the Time-dependent Transfer of Radiation. *D. Mohan Rao, K. E. Rangarajan, & A. Peraiah.* 358, 622, 131-C3 (1990)

RANK, D. The Discovery of a New Infrared Emission Feature at 1905 Wavenumbers (5.25 Microns) in the Spectrum of BD +30°3639 and Its Relation to the Polycyclic Aromatic Hydrocarbon Model. *L. J. Allamandola, J. D. Bregman, S. A. Sandford, A. G. G. M. Tielens, F. C. Witteborn, D. H. Wooden, & D. Rank.* 345, L59, 157-F1 (1989)

Hydrocarbon Emission Features in the Infrared Spectra of Warm Supergiants. *R. H. Buss, Jr., M. Cohen, A. G. G. M. Tielens, M. W. Werner, J. D. Bregman, F. C. Witteborn, D. Rank, & S. A. Sandford.* 365, L23, 212-C6 (1990)

RANK, D. M. Infrared Observations of SN 1987A from 5.3 to 12.6 Microns: Evidence for an Early Dust Echo. *D. M. Rank, J. Bregman, F. C. Witteborn, M. Cohen, D. K. Lynch, & R. W. Russell.* 325, L1, 25-A4 (1988)

Spectral Line Profiles of Nickel and Argon in Supernova 1987A: Expansion Velocity and Electron Scattering Effects. *F. C. Witteborn, J. D. Bregman, D. H. Wooden, P. A. Pinto, D. M. Rank, S. E. Woosley, & M. Cohen.* 338, L9, 40-C1 (1989)

RANK, DAVE. The Infrared Emission Bands. I. Correlation Studies and the Dependence on C/O Ratio. *Martin Cohen, Lou Allamandola, A. G. G. M. Tielens, Jesse Bregman, J. P. Simpson, Fred C. Witteborn, Diane Wooden, & Dave Rank.* 302, 737, 38-F10 (1986)

RANK, DAVID M. Observations of Infrared Emission from a Fast-moving Knot in Cassiopeia A. *Harriet L. Dinerstein, Daniel F. Lester, David M. Rank, Michael W. Werner, & Diane H. Wooden.* 312, 314, 4-C11 (1987)

3 Micron Spectrophotometry of Comet Halley: Evidence for Water Ice. *Jesse D. Bregman, A. G. G. M. Tielens, Fred C. Witteborn, David M. Rank, & Diane Wooden.* 334, 1044, 168-A11 (1988)

The Infrared Emission Bands. III. Southern *IRAS* Sources. *Martin Cohen, A. G. G. M. Tielens, Jesse Bregman, Fred C. Witteborn, David M. Rank, L. J. Allamandola, Dianne Wooden, & M. de Muizon.* 341, 246, 87-A7 (1989)

RANKIN, J. M. Null Transition Times, Quantized Drift Modes, and No Memory across Nulls for PSR 1944+17. *W. T. S. Deich, J. M. Cordes, T. H. Hankins, & J. M. Rankin.* 300, 540, 9-A10 (1986)

RANKIN, JOANNA M. Toward an Empirical Theory of Pulsar Emission. III. Mode Changing, Drifting Subpulses, and Pulse Nulling. *Joanna M. Rankin.* 301, 901, 25-E1 (1986)

Mode Changing and Quasi-periodic Modulation in Pulsar 1737+13: A Bright, Five-componented Pulsar. *Joanna M. Rankin, Alexander Wolszczan, & Daniel R. Stinebring.* 324, 1048, 15-A11 (1988)

On the Polarization-Modal Construction of Triplicity in the Profile of Pulsar 1604−00. *Joanna M. Rankin.* 325, 314, 22-E6 (1988)

Arecibo 21 Centimeter Polarimetry of 64 Pulsars: A Guide to Classification. *Joanna M. Rankin, Daniel R. Stinebring, & Joel M. Weisberg.* 346, 869, 178-A10 (1989)

Toward an Empirical Theory of Pulsar Emission. IV. Geometry of the Core Emission Region. *Joanna M. Rankin.* 352, 247, 53-A5 (1990)

Toward an Empirical Theory of Pulsar Emission. V. On the Circular Polarization in Pulsar Radiation. *V. Radhakrishnan & Joanna M. Rankin.* 352, 258, 53-B3 (1990)

RAO, A. R. *EXOSAT* Observations of the Rapidly Rotating Flare Star Gliese 890. *A. R. Rao & K. P. Singh.* 352, 303, 53-E11 (1990)

EXOSAT Observations of the Suspected Flare Star BD +48°1958A. *A. R. Rao, K. P. Singh, & M. N. Vahia.* 365, 332, 210-E1 (1990)

EXOSAT Observations of the Blazar PKS 1510−089. *K. P. Singh, A. R. Rao, & M. N. Vahia.* 365, 455, 213-F1 (1990)

RAO, D. MOHAN. Effect of the Time Spent by the Photon in the Absorbed State on the Time-dependent Transfer of Radiation. *D. Mohan Rao, K. E. Rangarajan, & A. Peraiah.* 358, 622, 131-C3 (1990)

RAO, M. L. P. Highly Excited Rotational States of the Meinel System of OH. *Mark C. Abrams, Sumner P. Davis, M. L. P. Rao, & Rolf Engleman, Jr.* 363, 326, 186-B11 (1990)

RAO, M. N. Solar Flare Neon Composition and Solar Cosmic-Ray Exposure Ages Based on Lunar Mineral Separates. *C. M. Nautiyal, J. T. Padia, M. N. Rao, & T. R. Vankatesan.* 301, 465, 18-G14 (1986)

RAO, MEENAKSHI. Lower Bounds on the Masses of Rapidly Rotating White Dwarfs. *G. Chanmugam, Meenakshi Rao, & Joel E. Tohline.* 319, 188, 95-A13 (1987)

RAPPAPORT, S. Orbital Elements of the Binary X-Ray Pulsar GX 301−2. *N. Sato, F. Nagase, N. Kawai, R. L. Kelley, S. Rappaport, & N. E. White.* 304, 241, 56-E6 (1986)

Optical Reprocessing of Gamma-Ray Bursts. *F. Melia, S. Rappaport, & P. C. Joss.* 305, L51, 80-C4 (1986)

The Core Mass–Radius Relation for Giants: A New Test of Stellar Evolution Theory. *P. C. Joss, S. Rappaport, & W. Lewis.* 319, 180, 95-A5 (1987)

The Evolutionary Status of 4U 1820−30. *S. Rappaport, L. A. Nelson, C. P. Ma, & P. C. Joss.* 322, 842, 149-A12 (1987)

4U 1626−67: The Binary with the Smallest Known Mass Function. *A. Levine, C. P. Ma, J. McClintock, S. Rappaport, M. van der Klis, & F. Verbunt.* 327, 732, 56-E14 (1988)

Evolution of Wide Binary Millisecond Pulsars in Globular Clusters. *S. Rappaport, A. Putney, & F. Verbunt.* 345, 210, 151-F10 (1989)

RAPPAPORT, S. A. The Evolution of Ultrashort Period Binary Systems. *L. A. Nelson, S. A. Rappaport, & P. C. Joss.* 304, 231, 56-D8 (1986)

The Evolution of Very Low Mass Stars. *L. A. Nelson, S. A. Rappaport, & P. A. Joss.* 311, 226, 148-D13 (1986)

RAPPAPORT, SAUL. Mass Transfer Instabilities Due to Angular Momentum Flows in Close Binaries. *Frank Verbunt & Saul Rappaport.* 332, 193, 125-C1 (1988)

RASIO, FREDERIC A. On the Existence of Stable Relativistic Star Clusters with Arbitrarily Large Central Redshifts. *Frederic A. Rasio, Stuart L. Shapiro, & Saul A. Teukolsky.* 336, L63, 16-F5 (1989)

What Is Causing the Eclipse in the Millisecond Binary Pulsar? *Frederic A. Rasio, Stuart L. Shapiro, & Saul A. Teukolsky.* 342, 934, 113-G7 (1989)

Solving the Vlasov Equation in General Relativity. *Frederic A. Rasio, Stuart L. Shapiro, & Saul A. Teukolsky.* 344, 146, 134-G7 (1989)

Encounters between Compact Stars and Red Giants in Dense Stellar Systems. *Frederic A. Rasio & Stuart L. Shapiro.* 354, 201, 76-D7 (1990)

RATCLIFF, STEPHEN J. Theoretical Stellar Luminosity Functions and the Ages and Compositions of Globular Clusters. *Stephen J. Ratcliff.* 318, 196, 81-A13 (1987)

Neutrino Emission from Solar Models with a Metal-depleted Core. *Ryszard Sienkiewicz, Bohdan Paczyński, & Stephen J. Ratcliff.* 326, 392, 36-E7 (1988)

Stellar Orbits in Angle Variables. II. Two-dimensional Orbits in a Rotating Potential. *David V. Guerra & Stephen J. Ratcliff.* 348, 127, 2-E9 (1990)

RATLIFF, R. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

RATNATUNGA, KAVAN U. Wide Binaries in the Direction of Andromeda. *John N. Bahcall, Burton F. Jones, & Kavan U. Ratnatunga.* 60, 939, 14-G7 (1986)

An Analysis of the Yale Bright Star Catalog. *John N. Bahcall, Stefano Casertano, & Kavan U. Ratnatunga.* 320, 515, 115-B10 (1987)

Kinematic Modeling of the Galaxy. I. The Yale Bright Star Catalogue. *Kavan U. Ratnatunga, John N. Bahcall, & Stefano Casertano.* 339, 106, 51-D1 (1989)

Field K Giants in Galactic Halo. II. Improved Abundance and Kinematic Parameters. *Kavan U. Ratnatunga & K. C. Freeman.* 339, 126, 51-E7 (1989)

The Rate of Stellar Collapses in the Galaxy. *Kavan U. Ratnatunga & Sidney van den Bergh.* 343, 713, 128-B5 (1989)

Kinematic Modeling of the Galaxy. II. Two Samples of High Proper-Motion Stars. *Stefano Casertano, Kavan U. Ratnatunga, & John N. Bahcall.* 357, 435, 118-A7 (1990)

RATNER, M. I. Radio Source Counts at 6 Centimeters to 0.1 Millijanskys. *R. B. Partridge, K. C. Hilldrup, & M. I. Ratner.* 308, 46, 108-E4 (1986)

VLBI Observations of 23 Hot Spots in the Starburst Galaxy M82. *N. Bartel, M. I. Ratner, A. E. E. Rogers, I. I. Shapiro, R. J. Bonometti, N. L. Cohen, M. V. Gorenstein, J. M. Marcaide, & R. A. Preston.* 323, 505, 160-B3 (1987)

RATRA, BHARAT. Cosmology with a Time-Variable Cosmological "Constant." *P. J. E. Peebles & Bharat Ratra.* 325, L17, 31-B8 (1988)

RATZEL, U. ^{88}Sr and ^{89}Y: The *s*-Process at Magic Neutron Number $N = 50$. *F. Käppeler, W. R. Zhao, H. Beer, & U. Ratzel.* 355, 348, 91-B12 (1990)

RAUBENHEIMER, B. C. Pulsed Very High Energy Gamma Rays from the *COS B* Source 2CG 006−00. *B. C. Raubenheimer, A. R. North, O. C. de Jager, G. van Urk, & A. J. van Tonder.* 307, L43, 107-B5 (1986)

A TeV Triple Peak from PSR 1509−58? *O. C. de Jager, B. C. Raubenheimer, A. R. North, H. I. Nel, & G. Van Urk.* 329, 831, 86-B4 (1988)

The Temporal Structure of Very High Energy Gamma Rays from Vela X-1. *B. C. Raubenheimer, A. R. North, O. C. de Jager, & H. I. Nel.* 336, 394, 6-B1 (1989)

Temporal Structure of Very High Energy Gamma Radiation from PSR 1509−58. *H. I. Nel, O. C. de Jager, B. C. Raubenheimer, A. R. North, & C. Brink.* 361, 181, 159-C1 (1990)

MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

RAUSCHER, BERNARD J. Near-Infrared Images of NGC 1068: Bar-driven Star Formation and the Circumnuclear Composition. *Harley A. Thronson, Jr., Mark Hereld, Steven Majewski, Matthew Greenhouse, Paul Johnson, Earl Spillar, C. E. Woodward, D. A. Harper, & Bernard J. Rauscher.* 343, 158, 120-B3 (1989)

RAWLEY, G. X-Ray Study of Superclusters. *M. Persic, K. Jahoda, Y. Rephaeli, E. Boldt, F. E. Marshall, R. F. Mushotzky, & G. Rawley.* 364, 1, 194-A12 (1990)

RAWLEY, L. A. Fundamental Astrometry and Millisecond Pulsars. *L. A. Rawley, J. H. Taylor, & M. M. Davis.* 326, 947, 44-A1 (1988)

RAWLEY, LLOYD A. Improved Timing of the Millisecond Pulsar PSR 1937+21 Using Real-Time Coherent Dedispersion. *T. H. Hankins, Daniel R. Stinebring, & Lloyd A. Rawley.* 315, 149, 41-F1 (1987)

RAWLINGS, S. J. Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

The Extraordinary Mass-Loss Bubble G2.4+1.4 and Its Central Star. *M. A. Dopita, T. A. Lozinskaya, P. J. McGregor, & S. J. Rawlings.* 351, 563, 47-B1 (1990)

RAY, A. Late-Time Neutrino Heating and Energetics of Stalled Shocks in Type II Supernovae. *A. Ray & K. Kar.* 319, 143, 94-E9 (1987)

Strongly Magnetic White Dwarf Binaries in Globular Clusters. *A. Ray & G. Chanmugam.* 350, L9, 31-B6 (1990)

RAY, D. Magnetic Quadrupole Transition Rates and Rydberg States of the Magnesium Isoelectronic Sequence. *D. Ray, P. K. Mukherjee, & H. P. Roy.* 346, 1045, 180-B1 (1989)

RAY, T. P. Multiband Far-Infrared Observations of the NGC 6334 Complex. *L. Loughran, B. McBreen, G. G. Fazio, T. N. Rengarajan, C. W. Maxson, S. Serio, S. Sciortino, & T. P. Ray.* 303, 629, 49-D3 (1986)

Optical Jets from the High-Luminosity Young Stars LkHα and AFGL 4029. *T. P. Ray, R. Poetzel, J. Solf, & R. Mundt.* 357, L45, 121-D3 (1990)

RAY, THOMAS P. A Close Association of Five Jet and Outflow Sources in the HL Tauri Region. *Reinhard Mundt, Thomas P. Ray, & Thomas Bührke.* 333, L69, 152-D10 (1988)

RAYCHAUDHURY, SOMAK. On Systematic Errors in Distance Estimates of the Virgo Cluster and the Intrinsic Scatter in the Tully-Fisher Relation. *David Burstein & Somak Raychaudhury.* 343, 18, 118-C1 (1989)

RAYMOND, J. C. The Interstellar Medium toward Supernova 1987A. *A. K. Dupree, R. P. Kirshner, G. E. Nassiopoulos, J. C. Raymond, & G. Sonneborn.* 320, 597, 116-B11 (1987)

Spatial and Spectral Interpretation of a Bright Filament in the Cygnus Loop. *J. C. Raymond, J. J. Hester, D. Cox, W. P. Blair, R. A. Fesen, & T. R. Gull.* 324, 869, 13-A1 (1988)

Wind-Disk Shocks around T Tauri Stars. *L. Hartmann & J. C. Raymond.* 337, 903, 30-B6 (1989)

The Exciting Source of the Bipolar Outflow in L1448. *S. Curiel, J. C. Raymond, L. F. Rodríguez, J. Cantó, & J. M. Moran.* 365, L85, 219-F5 (1990)

RAYMOND, JOHN. Radiative Bow Shock Models of Herbig-Haro Objects. *Patrick Hartigan, John Raymond, & Lee Hartmann.* 316, 323, 53-D14 (1987)

Molecular Hydrogen and Optical Images of HH 7–11. *Patrick Hartigan, Salvador Curiel, & John Raymond.* 347, L31, 189-D9 (1989)

Observations and Shock Models of the Jet and Herbig-Haro Objects HH 46/47. *Patrick Hartigan, John Raymond, & John Meaburn.* 362, 624, 178-E1 (1990)

RAYMOND, JOHN C. A Deep Hα Image of Faint Balmer-Line Filaments in the Northeast Cygnus Loop Supernova Remnant. *J. Jeff Hester, John C. Raymond, & G. Edward Danielson.* 303, L17, 47-B7 (1986)

Temperature Diagnostic Line Ratios of Fe XVII. *John C. Raymond & Barham W. Smith.* 306, 762, 92-G7 (1986)

IUE Observations of the Dwarf Nova HL Canis Majoris and the Winds of Cataclysmic Variables. *Christopher W. Mauche & John C. Raymond.* 323, 690, 162-C6 (1987)

Improved Bow Shock Models for Herbig-Haro Objects: Application to HH 2A. *John C. Raymond, Patrick Hartigan, & Lee Hartmann.* 326, 323, 35-F8 (1988)

Interstellar Absorption Lines in High-Resolution *IUE* Spectra of Cataclysmic Variables. *Christopher W. Mauche, John C. Raymond, & France A. Córdova.* 335, 829, 181-F14 (1988)

Measuring H_0 and q_0 with X-Ray Lines from Galaxy Clusters. *Julian H. Krolik & John C. Raymond.* 335, L39, 185-A10 (1988)

The Ultraviolet Spectrum of an Oxygen-rich Supernova Remnant in the Small Magellanic Cloud. *William P. Blair, John C. Raymond, John Danziger, & Francesca Matteucci.* 338, 812, 44-A9 (1989)

Ultraviolet Spectrophotometry and Optical and Infrared Photometry of the Old Nova GK Persei. *Chi-Chao Wu, Robert J. Panek, Albert V. Holm, John C. Raymond, Lee W. Hartmann, & Jean H. Swank.* 339, 443, 55-D10 (1989)

Predicted Extreme-Ultraviolet and X-Ray Spectrum of a Microflare-heated Corona. *John C. Raymond.* 365, 387, 211-B11 (1990)

RAYNER, J. T. Discovery of a Reflection Dust Envelope around IRC +10216. *M. Tamura, T. Hasegawa, N. Ukita, I. Gatley, I. S. McLean, M. G. Burton, J. T. Rayner, & M. J. McCaughrean.* 326, L17, 38-B9 (1988)

RAYNER, S. M. SN 1987A: Limits to 400 GeV Gamma-Ray Emission. *P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, S. M. Rayner, K. J. Orford, K. E. Turver, & D. G. Williams.* 333, L19, 144-B11 (1988)

300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)

New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989))

RAZDAN, H. Estimate from Gulmarg of PeV Photon Flux from Cygnus X-3 and Its Relevance. *C. L. Bhat, M. L. Sapru, & H. Razdan.* 306, 587, 91-A7 (1986)

RE, S. Time Variability of Gamma Cassiopeiae in X-Rays. *F. Frontera, D. Dal Fiume, N. R. Robba, G. Manzo, S. Re, & E. Costa.* 320, L127, 121-D13 (1987)

REACH, WILLIAM T. Molecules, Grains, and Shocks: A Comparison of CO, H I, and *IRAS* Data. *Carl Heiles, William T. Reach, & Bon-Chul Koo.* 332, 313, 126-E9 (1988)

Zodiacal Emission. I. Dust near the Earth's Orbit. *William T. Reach.* 335, 468, 176-A1 (1988)

A Large Bubble around the Crab Nebula. *Roger W. Romani, William T. Reach, Bon-Chul Koo, & Carl Heiles.* 349, L51, 24-C5 (1990)

Detection of an Expanding H I Shell in the Old Supernova Remnant CTB 80. *Bon-Chul Koo, William T. Reach, Carl Heiles, Robert A. Fesen, & J. Michael Shull.* 364, 178, 196-C5 (1990)

READER, JOSEPH. Wavelengths and Intensities of a Platinum/Neon Hollow Cathode Lamp in the Region 1100–4000 Å. *Joseph Reader, Nicolo Acquista, Craig J. Sansonetti, & Jean E. Sansonetti.* 72, 831, 16-G11 (1990)

READHEAD, A. C. S. 1642+690: A Superluminal Quasar. *T. J. Pearson, P. D. Barthel, C. R. Lawrence, & A. C. S. Readhead.* 300, L25, 13-B1 (1986)

High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

0850+581: Another Superluminal Radio Source. *P. D. Barthel, T. J. Pearson, A. C. S. Readhead, & B. J. Canzian.* 310, L7, 138-A10 (1986)

Superluminal Motion in the Double-lobed Quasar 3C 245. *D. H. Hough & A. C. S. Readhead.* 321, L11, 129-C1 (1987)

VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)

The Milliarcsecond Structure of a Complete Sample of Radio Sources. II. First-Epoch Maps at 5 GHz. *T. J. Pearson & A. C. S. Readhead.* 328, 114, 63-C4 (1988)

3C 216—A New Type of Superluminal Quasar. *P. D. Barthel, T. J. Pearson, & A. C. S. Readhead.* 329, L51, 89-A9 (1988)

Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)

A Fast-moving Knot of Radio Emission in the Active Galaxy NGC 1275. *J. M. Marr, D. C. Backer, M. C. H. Wright, A. C. S. Readhead, & R. Moore.* 337, 671, 27-D1 (1989)

A Limit on the Anisotropy of the Microwave Background Radiation on Arcminute Scales. *A. C. S. Readhead, C. R. Lawrence, S. T. Myers, W. L. W. Sargent, H. E. Hardebeck, & A. T. Moffet.* 346, 566, 174-E1 (1989)

Images of Four Compact Steep-Spectrum Quasars with a Resolution of 20 Milliarcseconds at 329.1 MHz. *R. S. Simon, A. C. S. Readhead, A. T. Moffet, P. N. Wilkinson, R. Booth, B. Allen, & B. F. Burke.* 354, 140, 75-F8 (1990)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

REALE, F. Hydrodynamic Flare Modeling: Comparison of Numerical Calculations with *SMM* Observations of the 1980 November 12 17:00 UT Flare. *G. Peres, F. Reale, S. Serio, & R. Pallavicini.* 312, 895, 12-F5 (1987)

Hydrodynamic Modeling of an X-Ray Flare on Proxima Centauri Observed by the *Einstein* Telescope. *F. Reale, G. Peres, S. Serio, R. Rosner, & J. H. M. M. Schmitt.* 328, 256, 64-G1 (1988)

Time Variability of the X-Ray Sources in M33. *G. Peres, F. Reale, A. Collura, & G. Fabbiano.* 336, 140, 2-F11 (1989)

Two Variable X-Ray Sources in M31. *A. Collura, F. Reale, & G. Peres.* 356, 119, 100-E3 (1990)

REAMES, D. V. The Heavy-Ion Compositional Signature in ^{3}He-rich Solar Particle Events. *G. M. Mason, D. V. Reames, B. Klecker, D. Hovestadt, & T. T. von Rosenvinge.* 303, 849, 51-G1 (1986)

The Identification of Solar ^{3}He-rich Events and the Study of Particle Acceleration at the Sun. *D. V. Reames & R. G. Stone.* 308, 902, 118-G3 (1986)

Soft X-Ray Emissions, Meter-Wavelength Radio Bursts, and Particle Acceleration in Solar Flares. *H. V. Cane & D. V. Reames.* 325, 895, 30-C11 (1988)

Some Statistics of Solar Radio Bursts of Spectral Types II and IV. *H. V. Cane & D. V. Reames.* 325, 901, 30-D3 (1988)

Temperature Dependence of the Abundances of Elements in Solar ^{3}He-rich Events. *D. V. Reames.* 325, L53, 31-E1 (1988)

X-Ray and Radio Properties of Solar ^{3}He-rich Events. *D. V. Reames, B. R. Dennis, R. G. Stone, & R. P. Lin.* 327, 998, 59-F14 (1988)

Solar Neon Abundances from Gamma-Ray Spectroscopy and ^{3}He-rich Particle Events. *D. V. Reames, R. Ramaty, & T. T. von Rosenvinge.* 332, L87, 137-E1 (1988)

Solar Flare Nuclear Gamma Rays and Interplanetary Proton Events. *E. W. Cliver, D. J. Forrest, H. V. Cane, D. V. Reames, R. E. McGuire, T. T. von Rosenvinge, S. R. Kane, & R. J. MacDowall.* 343, 953, 131-A1 (1989)

The Relationship between Energetic Particles and Flare Properties for Impulsive Solar Flares. *H. V. Cane & D. V. Reames.* 73, 253, 21-B7 (1990)

Energetic Particle Abundances in Solar Electron Events. *D. V. Reames, H. V. Cane, & T. T. von Rosenvinge.* 357, 259, 114-C6 (1990)

Quiet-Time Properties of Low-Energy (< 10 MeV per Nucleon) Interplanetary Ions during Solar Maximum and Solar Minimum. *I. G. Richardson, D. V. Reames, K.-P. Wenzel, & J. Rodriguez-Pacheco.* 363, L9, 187-B1 (1990)

REAMES, DONALD. Solar Neutron Decay Proton Observations in Cycle 21. *Paul Evenson, Richard Kroeger, Peter Meyer, & Donald Reames.* 73, 272, 21-D13 (1990)

REAMES, DONALD V. Bimodal Abundances in the Energetic Particles of Solar and Interplanetary Origin. *Donald V. Reames.* 330, L71, 97-A12 (1988)

Wave Generation in the Transport of Particles from Large Solar Flares. *Donald V. Reames.* 342, L51, 109-E1 (1989)

Energetic Particles from Impulsive Solar Flares. *Donald V. Reames.* 73, 235, 21-A1 (1990)

Acceleration of Energetic Particles by Shock Waves from Large Solar Flares. *Donald V. Reames.* 358, L63, 133-E8 (1990)

REBETZKY, A. Radiative Transfer in Fast-moving Media: The Limit of the Diffusion Approximation. *A. Rebetzky, H. Herold, U. Kraus, T. Maile, H. Ruder, & K. Wolf.* 344, L33, 140-C13 (1989)

Radiation Viscosity: Effects on X-Ray Spectra. *A. Rebetzky, H. Herold, G. Morfill, & H. Ruder.* 350, 796, 35-G8 (1990)

REBOLO, R. Oxygen Abundances in Unevolved Metal-poor Stars: Interpretation and Consequences. *C. Abia & R. Rebolo.* 347, 186, 184-D5 (1989)

Circular Polarization of the Ca II H and K Lines in Solar Quiet and Active Regions. *V. Martínez Pillet, R. J. García López, J. C. del Toro Iniesta, R. Rebolo, M. Vázquez, J. E. Beckman, & S. Char.* 361, L81, 168-F6 (1990)

RECELY, F. Transition Zone Flows Observed in a Coronal Hole on the Solar Disk. *K. P. Dere, J.-D. F. Bartoe, G. E. Brueckner, & F. Recely.* 345, L95, 165-C9 (1989)

RECILLAS, ELSA. A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)

REDDI, S. PADDI. The First Negative ($B^2\Sigma_u^+$–$X^2\Sigma_g^+$) System of $^{15}N_2^+$. *S. Paddi Reddi & C. V. V. Prasad.* 337, 579, 24-F5 (1989) (Orig. paper in 331, 572, 112-F8 (1988))

REDDY, S. PADDI. The First Negative ($B^2\Sigma_u^+$–$X^2\Sigma_g^+$) System of $^{15}N_2^+$. *S. Paddi Reddy & C. V. V. Prasad.* 331, 572, 112-F8 (1988)

REDMAN, R. O. The Dust and Gas Surrounding LkHα 101. *R. O. Redman, T. B. H. Kuiper, J. J. Lorre, & J. E. Gunn.* 303, 300, 44-C14 (1986)

REEDER, D. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

REES, D. E. Stokes Profile Analysis and Vector Magnetic Fields. III. Extended Temperature Minima of Sunspot Umbrae as Inferred from Stokes Profiles of Mg I λ4571. *B. W. Lites, A. Skumanich, D. E. Rees, G. A. Murphy, & M. Carlsson.* 318, 930, 91-B6 (1987)

Stokes Profile Analysis and Vector Magnetic Fields. IV. Synthesis and Inversion of the Chromospheric Mg I *b* Lines. *B. W. Lites, A. Skumanich, D. E. Rees, & G. A. Murphy.* 330, 493, 95-G1 (1988)

Transfer and Redistribution of Polarized Light in Resonance Lines. I. Quantum Formulation with Collisions. *A. Streater, J. Cooper, & D. E. Rees.* 335, 503, 176-D3 (1988)

Stokes Profile Analysis and Vector Magnetic Fields. II. Formal Numerical Solutions of the Stokes Transfer Equations. *D. E. Rees, G. A. Murphy, & C. J. Durrant.* 339, 1093, 65-B8 (1989)

REES, M. J. The Link between Tidal Interaction and Nuclear Activity in Galaxies. *D. N. C. Lin, J. E. Pringle, & M. J. Rees.* 328, 103, 63-B6 (1988)

Radiative Equilibrium of High-Density Clouds, with Application to Active Galactic Nucleus Continua. *G. J. Ferland & M. J. Rees.* 332, 141, 124-E11 (1988)

Small Dense Broad-Line Regions in Active Nuclei. *M. J. Rees, Hagai Netzer, & G. J. Ferland.* 347, 640, 191-B11 (1989)

Acceleration by Synchrotron Absorption and Superluminal Sources. *G. Ghisellini, G. Bodo, E. Trussoni, & M. J. Rees.* 362, L1, 174-A7 (1990)

REES, MARTIN J. The Radiative Acceleration of Astrophysical Jets: Line Locking in SS 433. *Paul R. Shapiro, Mordehai Milgrom, & Martin J. Rees.* 60, 393, 6-A5 (1986)

Thermal and Dynamical Effects of Pair Production on Two-Temperature Accretion Flows. *Mitchell C. Begelman, Marek Sikora, & Martin J. Rees.* 313, 689, 24-C12 (1987)

Effects of Electron-Positron Pair Opacity for Spherical Accretion onto Black Holes. *Alan P. Lightman, Andrzej A. Zdziarski, & Martin J. Rees.* 315, L113, 49-D8 (1987)

Clearings in Lyα Forests. *Israel Kovner & Martin J. Rees.* 345, 52, 149-E12 (1989)

Radiative Shocks inside Protogalaxies and the Origin of Globular Clusters. *Hyesung Kang, Paul R. Shapiro, S. Michael Fall, & Martin J. Rees.* 363, 488, 190-C1 (1990)

REESE, D. E. Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

REEVES, HUBERT. On the Origin of Lithium. *Hubert Reeves, Jacques Richer, Katsuhiko Sato, & Nobuo Terasawa.* 355, 18, 87-C3 (1990)

REFFO, G. ^{148,150}Sm: A Test for *s*-Process Nucleosynthesis. *R. R. Winters, F. Käppeler, K. Wisshak, A. Mengoni, & G. Reffo.* 300, 41, 1-D5 (1986)

REFLOC'H, A. Hard X-Ray Pulse Profile and Period Evaluation of A0535+26 and GX 1+4 as Observed by the Franco-Soviet Signe Satellite Experiments. *A. Refloc'h, G. Chambon, M. Niel, G. Vedrenne, & Ch. Yu. Rakhamimov.* 310, 773, 142-D3 (1986)

REGEV, ODED. Hydrodynamic Simulation of a White Dwarf–Main-Sequence Star Collision in a Globular Cluster Core. *Michael M. Shara & Oded Regev.* 306, 543, 90-D12 (1986)

Massive Disk Formation from the Collision of a Main-Sequence Star with a White Dwarf in a Globular Cluster Core. *Noam Soker, Oded Regev, Mario Livio, & Michael M. Shara.* 318, 760, 89-C4 (1987)

How Much Boundary Layer Heating Occurs in an Accreting Prenova White Dwarf? *Oded Regev & Michael M. Shara.* 340, 1006, 80-G1 (1989)

Accretion onto Hot White Dwarfs in Relation to Symbiotic Novae. *Mario Livio, Dina Prialnik, & Oded Regev.* 341, 299, 87-E8 (1989)

REGOS, ENIKO. Multipole Expansion of the Large-Scale Velocity Field: Using the Tensor Window Function. *Eniko Regos & Alexander S. Szalay.* 345, 627, 158-E6 (1989)

RÉGULO, C. The 160 Minute Solar Oscillation: An Artifact? *Y. P. Elsworth, S. M. Jefferies, C. P. McLeod, R. New, P. L. Pallé, H. B. van der Raay, C. Régulo, & T. Roca Cortés.* 338, 557, 39-F7 (1989)

REICH, PATRICIA. The Galactic Center Spur—A Jet from the Nucleus? *Yoshiaki Sofue, Wolfgang Reich, & Patricia Reich.* 341, L47, 99-F1 (1989)

REICH, WOLFGANG. The Galactic Center Spur—A Jet from the Nucleus? *Yoshiaki Sofue, Wolfgang Reich, & Patricia Reich.* 341, L47, 99-F1 (1989)

REICHERT, G. A. X-Ray Absorption in Active Galaxies: Constraints on the Broad-Line Emitting Regions. *G. A. Reichert, R. F. Mushotzky, & S. S. Holt.* 303, 87, 42-A4 (1986)

Voyager and *IUE* Observations of 3C 273: Detection of Possible Lyman Continuum Absorption in a Nearby (z = 0.158) Quasar. *G. A. Reichert, R. S. Polidan, C.-C. Wu, & T. E. Carone.* 325, 671, 28-A1 (1988)

REICHERT, GAIL A. Ultraviolet and Optical Spectroscopy of NGC 5548 and the Nature of the Broad-Line Region. *Bradley M. Peterson, Gail A. Reichert, Kirk T. Korista, & R. Mark Wagner.* 352, 68, 51-A1 (1990)

REICHMANN, E. J. Microflares in the Solar Magnetic Network. *J. G. Porter, R. L. Moore, E. J. Reichmann, E. Engvold, & K. L. Harvey.* 323, 380, 157-C5 (1987)

The Lyman-Alpha Line in Various Solar Features. I. Observations. *J. Fontenla, E. J. Reichmann, & E. Tandberg-Hanssen.* 329, 464, 80-B11 (1988)

Ultraviolet Events Observed in Active Regions. I. Observations and Scenario. *J. M. Fontenla, E. Tandberg-Hanssen, E. J. Reichmann, & Sharon Filipowski.* 344, 1034, 146-G1 (1989)

REID, A. Four Year Modulation of Periodic Radio Outbursts from LSI +61°303. *P. C. Gregory, Huang-Jian Xu, C. J. Backhouse, & A. Reid.* 339, 1054, 64-F5 (1989)

REID, I. NEILL. Does G29–38 Have a Massive Companion? *James R. Graham, James K. McCarthy, I. Neill Reid, & R. Michael Rich.* 357, L21, 115-D2 (1990)

REID, M. J. X-Rays from the Radio Halo of M87. *E. D. Feigelson, P. A. D. Wood, E. J. Schreier, D. E. Harris, & M. J. Reid.* 312, 101, 2-B5 (1987)

Magnetic Field Structure of the Star-forming Region W3(OH): VLBI Spectral Line Results. *J. A. García-Barreto, B. F. Burke, M. J. Reid, J. M. Moran, A. D. Haschick, & R. T. Schilizzi.* 326, 954, 44-A8 (1988)

The Distance to the Center of the Galaxy: H_2O Maser Proper Motions in Sagittarius B2(N). *M. J. Reid, M. H. Schneps, J. M. Moran, C. R. Gwinn, R. Genzel, D. Downes, & B. Rönnäng.* 330, 809, 101-D7 (1988)

Limits on Refractive Interstellar Scattering toward Sagittarius B2. *C. R. Gwinn, J. M. Moran, M. J. Reid, & M. H. Schneps.* 330, 817, 101-E1 (1988)

VLBI Observations of Expansion in Cygnus X-3. *L. A. Molnar, M. J. Reid, & J. E. Grindlay.* 331, 494, 111-G4 (1988)

VLBI Observations of 12 GHz Methanol Masers. *K. M. Menten, M. J. Reid, J. M. Moran, T. L. Wilson, K. J. Johnston, & W. Batrla.* 333, L83, 152-F1 (1988)

Subluminal Motion and Limb Brightening in the Nuclear Jet of M87. *M. J. Reid, J. A. Biretta, W. Junor, T. W. B. Muxlow, & R. E. Spencer.* 336, 112, 2-D1 (1989)

VLBI Observations of the Water Vapor Maser in the Nucleus of NGC 3079. *A. D. Haschick, W. A. Baan, M. H. Schneps, M. J. Reid, J. M. Moran, & R. Güsten.* 356, 149, 100-G9 (1990)

A Subarcsecond H_2O Maser Shell Surrounding a Variable Star. *M. J. Reid & K. M. Menten.* 360, L51, 156-D7 (1990)

OH Masers and the Galactic Magnetic Field. *M. J. Reid & E. M. Silverstein.* 361, 483, 164-B2 (1990)

First Images of Water Vapor Masers in the Galaxy M33. *L. J. Greenhill, J. M. Moran, M. J. Reid, C. R. Gwinn, K. M. Menten, A. Eckart, & H. Hirabayashi.* 364, 513, 202-E1 (1990)

REID, MARK J. The Circumstellar Envelope of W3(OH): NH_3 Observations. *Mark J. Reid, Philip C. Myers, & John H. Bieging.* 312, 830, 12-A9 (1987)

Compact Continuum Radio Sources in the Orion Nebula. *Guido Garay, James M. Moran, & Mark J. Reid.* 314, 535, 35-D2 (1987)

Gravitational Collapse in Molecular Cloud Cores around Ultracompact H II Regions: Two Candidates. *Eric R. Keto, Paul T. P. Ho, & Mark J. Reid.* 323, L117, 164-C1 (1987)

REID, NEILL. The Evolution of Asymptotic Giant Branch Stars in the Magellanic Clouds. III. The Problem of Intermediate-Mass Stars. *Jeremy Mould & Neill Reid.* 321, 156, 124-A1 (1987)

The Stellar Populations of Shapley Constellation III. *Neill Reid, Jeremy Mould, & Ian Thompson.* 323, 433, 159-C11 (1987)

The Continuity of Cluster Formation in the Large Magellanic Cloud. *Joseph Jensen, Jeremy Mould, & Neill Reid.* 67, 77, 11-C1 (1988)

Detection of H-Alpha Emission in the Hot White Dwarf G191–B2B. *Neill Reid & Gary Wegner.* 335, 953, 183-B9 (1988)

Luminous Asymptotic Giant Branch Stars in the Large Magellanic Cloud. *Neill Reid, Chris Tinney, & Jeremy Mould.* 348, 98, 2-C3 (1990)

A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

An Asymptotic Giant Branch Star Survey in the Small Magellanic Cloud. *Neill Reid & Jeremy Mould.* 360, 490, 152-D5 (1990)

REIDL, CHARLES J., JR. Gravity in One Dimension: Selective Relaxation? *Charles J. Reidl, Jr., & Bruce N. Miller.* 318, 248, 81-E10 (1987)

Gravity in One Dimension: Quasi-Equilibrium. *Charles J. Reidl, Jr., & Bruce N. Miller.* 332, 619, 131-A8 (1988)

Gravity in One Dimension: Persistence of Correlation. *Bruce N. Miller & Charles J. Reidl, Jr.* 348, 203, 3-E1 (1990)

REIF, K. The Absolute Temperature of the Sky and the Temperature of the Cosmic Background Radiation at 600 MHz. *G. Sironi, M. Limon, G. Marcellino, G. Bonelli, M. Bersanelli, G. Conti, & K. Reif.* 357, 301, 116-C11 (1990)

REILAND, THOMAS. A Study of Upgren 1. *George Gatewood, Joost Kiewiet de Jonge, Michael Castelaz, Inwoo Han, Timothy Persinger, James Prosser, Thomas Reiland, & John Stein.* 332, 917, 134-D12 (1988)

REILMAN, ROBERT F. Photoabsorption Cross Sections for Positive Ions with $Z \leq 30$: Erratum. *Robert F. Reilman & Steven T. Manson.* 62, 939, 44-C8 (1986) (Orig. paper in 40, 815, 24-D1 (1979))

REINES, F. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

REIPURTH, BO. Detection of Synchrotron Emission from a Unique HH–like Object in Orion. *F. Yusef-Zadeh, T. J. Cornwell, Bo Reipurth, & M. Roth.* 348, L61, 13-C1 (1990)

REISTAD, N. Experimental Oscillator Strengths for Resonance Transitions in Aluminum-like Sulfur, S IV. *N. Reistad & L. Engström.* 327, 502, 52-E4 (1988)

RÉME, H. On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 343, L77, 132-E5 (1989)

On the Possible Detection of Organic Dust-borne C_3H^+ Ions in the Coma of Comet Halley. *M. L. Marconi, A. Korth, D. A. Mendis, R. P. Lin, D. L. Mitchell, H. Réme, & C. d'Uston.* 349, L33, 19-D4 (1990) (Orig. paper in 343, L77, 132-E5 (1989))

The Identification of H_3S^+ with the Ion of Mass per Charge (m/q) 35 Observed in the Coma of Comet Halley. *M. L. Marconi, D. A. Mendis, A. Korth, R. P. Lin, D. L. Mitchell, & H. Reme.* 352, L17, 55-C1 (1990)

REMILLARD, R. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

REMILLARD, R. A. The Discovery of Eight Bright Active Galactic Nuclei Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, H. V. Bradt, D. A. H. Buckley, W. Roberts, D. A. Schwartz, I. R. Tuohy, & K. Wood.* 301, 742, 23-F5 (1986)

H0538+608: A Bright AM Herculis–Type X-Ray Source. *R. A. Remillard, H. V. Bradt, J. E. McClintock, J. Patterson, W. Roberts, D. A. Schwartz, & S. Tapia.* 302, L11, 35-A13 (1986)

Simultaneous X-Ray and Optical Observations of GX 339–4 in an X-Ray High State. *K. Makishima, Y. Maejima, K. Mitsuda, H. V. Bradt, R. A. Remillard, I. R. Tuohy, R. Hoshi, & M. Nakagawa.* 308, 635, 116-A1 (1986)

Identification of Two Southern X-Ray Emitting Cataclysmic Variables. *I. R. Tuohy, D. A. H. Buckley, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 311, 275, 149-A12 (1986)

Discovery of Three New RS Canum Venaticorum–like Counterparts to *HEAO 1* X-Ray Sources. *D. A. H. Buckley, I. R. Tuohy, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 315, 273, 42-G14 (1987)

Two X-Ray–selected BL Lacertae Objects Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, I. R. Tuohy, R. J. V. Brissenden, D. A. H. Buckley, D. A. Schwartz, E. D. Feigelson, & S. Tapia.* 345, 140, 150-F11 (1989)

H1722+119: A Highly Polarized X-Ray–selected BL Lacertae Object. *R. J. V. Brissenden, R. A. Remillard, I. R. Tuohy, D. A. Schwartz, & P. L. Hertz.* 350, 578, 33-D1 (1990)

LB 1800: A Bright Eclipsing Cataclysmic Variable and a Transient X-Ray Source. *D. A. H. Buckley, D. J. Sullivan, R. A. Remillard, I. R. Tuohy, & M. Clark.* 355, 617, 96-C1 (1990)

1H 0709–360: A Cataclysmic Variable with an Orbital Period inside the "Period Gap." *I. R. Tuohy, R. A. Remillard, R. J. V. Brissenden, & H. V. Bradt.* 359, 204, 136-E9 (1990)

REMILLARD, RONALD A. The Black Hole Binary A0620–00. *Jeffrey E. McClintock & Ronald A. Remillard.* 308, 110, 109-C5 (1986)

SAS 3 and *Einstein* Observations of the 11 Minute Orbital Period of the Globular Cluster X-Ray Source 4U 1820–30. *Edward H. Morgan, Ronald A. Remillard, & Michael R. Garcia.* 324, 851, 12-F9 (1988)

Optical Observations of the X-Ray Binary V1727 Cygni (=4U 2129+47) during a Low State: Some Unexpected Results. *John R. Thorstensen, Kenneth R. Brownsberger, Delo E. Mook, The Off-Campus Program Students, Ronald A. Remillard, Jeffrey E. McClintock, David C. Koo, & Philip A. Charles.* 334, 430, 159-E1 (1988)

The X-Ray Nova Centaurus X-4: Comparisons with A0620–00. *Jeffrey E. McClintock & Ronald A. Remillard.* 350, 386, 29-F11 (1990)

REMY, M. New Observations and Gravitational Lens Models of the Cloverleaf Quasar H1413+117. *R. Kayser, J. Surdej, J. J. Condon, K. I. Kellermann, P. Magain, M. Remy, & A. Smette.* 364, 15, 194-C1 (1990)

RENGARAJAN, T. N. Multiband Far-Infrared Observations of the NGC 6334 Complex. *L. Loughran, B. McBreen, G. G. Fazio, T. N. Rengarajan, C. W. Maxson, S. Serio, S. Sciortino, & T. P. Ray.* 303, 629, 49-D3 (1986)

Far-Infrared (120–300 Micron) Observations of the Carina Nebula. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 330, 928, 102-F6 (1988)

Far-Infrared (120–300 Micron) Observations of Southern H II Regions. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 69, 233, 4-D1 (1989)

Far-Infrared and Radio Observations of the W31 Star-forming Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, R. R. Daniel, & Paul T. P. Ho.* 347, 338, 186-C3 (1989)

Far-Infrared Observations of G351.6–1.3/G351.7–1.2 Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 353, 564, 71-A1 (1990)

RENZINI, A. On the Role of Low-Mass Asymptotic Giant Branch Stars in Producing a Solar System Distribution of *s*-Process Isotopes. *R. Gallino, M. Busso, G. Picchio, C. M. Raiteri, & A. Renzini.* 334, L45, 161-E5 (1988)

RENZINI, ALVIO. On the Interpretation of the Sandage Period-Shift Effect among Globular Cluster RR Lyrae Variables. *Allen V. Sweigart, Alvio Renzini, & Amedeo Tornambè.* 312, 762, 11-C4 (1987)

The Development of the Red Giant Branch. I. Theoretical Evolutionary Sequences. *Allen V. Sweigart, Laura Greggio, & Alvio Renzini.* 69, 911, 15-A1 (1989)

X-Ray Evolution of Model Elliptical Galaxies. *Annibale D'Ercole, Alvio Renzini, Luca Ciotti, & Silvia Pellegrini.* 341, L9, 91-B1 (1989)

Clues on the Hot Star Content and the Ultraviolet Output of Elliptical Galaxies. *Laura Greggio & Alvio Renzini.* 364, 35, 194-D12 (1990)

The Development of the Red Giant Branch. II. Astrophysical Properties. *Allen V. Sweigart, Laura Greggio, & Alvio Renzini.* 364, 527, 202-F3 (1990)

Double Degenerates among DA White Dwarfs. *Angela Bragaglia, Laura Greggio, Alvio Renzini, & Sandro D'Odorico.* 365, L13, 212-B7 (1990)

REPHAELI, Y. *HEAO 1* Hard X-Ray Observations of Three Abell Clusters of Galaxies. *Y. Rephaeli, D. E. Gruber, & R. E. Rothschild.* 320, 139, 109-E5 (1987)

X-Ray Study of Superclusters. *M. Persic, K. Jahoda, Y. Rephaeli, E. Boldt, F. E. Marshall, R. F. Mushotzky, & G. Rawley.* 364, 1, 194-A12 (1990)

REPHAELI, YOEL. Correlated Statistical Fluctuations and Galaxy Formation. *Yoel Rephaeli & William C. Saslaw.* 309, 13, 120-B4 (1986)

A Bound on X-Ray Emission from the Intrasupercluster Medium. *Massimo Persic, Yoel Rephaeli, & Elihu Boldt.* 327, L1, 53-A4 (1988)

Diffuse Hard X-Ray and Gamma-Ray Emission from M87. *Charles D. Dermer & Yoel Rephaeli.* 329, 687, 84-C1 (1988)

An Analysis of Recent Measurements of the Temperature of the Cosmic Microwave Background Radiation. *George Smoot, Steven M. Levin, Chris Witebsky, Giovanni De Amici, & Yoel Rephaeli.* 331, 653, 116-A6 (1988)

HEAO 1 Hard X-Ray Observations of Clusters of Galaxies and Intracluster Magnetic Fields. *Yoel Rephaeli & D. E. Gruber.* 333, 133, 139-D4 (1988)

Infrared Emission from Dust in the Coma Cluster of Galaxies. *Eli Dwek, Yoel Rephaeli, & John C. Mather.* 350, 104, 26-C5 (1990)

REPPIN, C. *SMM* Detection of Diffuse Galactic 511 keV Annihilation Radiation. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Messina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 326, 717, 41-E1 (1988)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation: Erratum. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Massina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 331, 1078, 120-G4 (1988) (Orig. paper in 326, 717, 41-E1 (1988))

RESTER, A. C. Gamma-Ray Observations of SN 1987A from Antarctica. *A. C. Rester, R. L. Coldwell, F. E. Dunnam, G. Eichhorn, J. I. Trombka, R. Starr, & G. P. Lasche.* 342, L71, 117-D1 (1989)

RESVANIS, L. K. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

REUTER, D. C. Infrared Fluorescence Efficiencies for the ν_1 and ν_5 Bands of Formaldehyde in the Solar Radiation Field. *D. C. Reuter, M. J. Mumma, & S. Nadler.* 341, 1045, 98-B1 (1989)

REUTER, DENNIS C. Mg I Absorption Features in the Solar Spectrum near 9 and 12 Microns. *David A. Glenar, Dennis C. Reuter, Drake Deming, & Edward S. Chang.* 335, L35, 177-D1 (1988)

On the Identification of Formaldehyde in Halley's Comet. *Michael J. Mumma & Dennis C. Reuter.* 344, 940, 145-F11 (1989)

REY, S.-J. Coupling of Modes of Cosmological Mass Density Fluctuations. *M. H. Goroff, B. Grinstein, S.-J. Rey, & M. B. Wise.* 311, 6, 146-A12 (1986)

Interpretation of Large-Scale Deviations from the Hubble Flow. *B. Grinstein, H. David Politzer, S.-J. Rey, & Mark B. Wise.* 314, 431, 34-C1 (1987)

REYES, LUIS M. Theoretical Study of CS-containing Molecules. I. *Ab Initio* Hartree-Fock Predictions for C_2S_2. *Juan S. Gómez-Jeria, Raúl G. E. Morales, & Luis M. Reyes.* 302, 488, 33-E7 (1986)

REYNOLDS, ANNE P. On the Distribution of Colors for Stars in the Ninth to Fifteenth Magnitude Range: Statistics and Implications for Galactic Structure. *Barry M. Lasker, Peter M. Garnavich, & Anne P. Reynolds.* 320, 502, 115-A3 (1987)

REYNOLDS, J. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

REYNOLDS, J. E. Milliarcsecond Observations of 12 GHz Methanol Masers. *W. H. McCutcheon, K. J. Wellington, R. P. Norris, J. L. Caswell, M. J. Kesteven, J. E. Reynolds, & R.-S. Peng.* 333, L79, 152-E11 (1988)

Detection of the $2_0 \rightarrow 3_{-1}$ Transition of $^{13}CH_3OH$ at 14.8 GHz. *T. B. H. Kuiper, W. L. Peters III, F. F. Gardner, J. B. Whiteoak, & J. E. Reynolds.* 340, L41, 75-F9 (1989)

The Proper Motion of the Vela Pulsar. *M. Bailes, R. N. Manchester, M. J. Kesteven, R. P. Norris, & J. E. Reynolds.* 343, L53, 132-C5 (1989)

REYNOLDS, P. T. TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

REYNOLDS, R. J. Hα Scans of the Intergalactic H I Cloud in Leo. *R. J. Reynolds, K. Magee, F. L. Roesler, F. Scherb, & J. Harlander.* 309, L9, 125-D2 (1986)

Detection of an Extremely Faint Emission Nebula Surrounding the Hot White Dwarf PG 0108+101. *R. J. Reynolds.* 315, 234, 42-E3 (1987)

A View of the Galactic Hα Background: $208° \leq l \leq 218°$; $-2° \leq b \leq +8°$. *R. J. Reynolds.* 323, 118, 154-D2 (1987)

Hα Scans of High-Velocity Clouds. *R. J. Reynolds.* 323, 553, 160-F11 (1987)

[S II]/Hα Intensity Ratios in Faint, Extended H II Regions and the Origin of the Interstellar Emission-Line Background. *R. J. Reynolds.* 333, 341, 141-G2 (1988)

The Column Density and Scale Height of Free Electrons in the Galactic Disk. *R. J. Reynolds.* 339, L29, 58-C9 (1989)

Probable Detection of Hα Emission from a Very High Velocity Cloud in Cetus. *A. S. Kutyrev & R. J. Reynolds.* 344, L9, 140-B1 (1989)

Lower Limits on the Temperature and Hydrogen Ionization Fraction in the Diffuse, Ionized Interstellar Gas. *R. J. Reynolds.* 345, 811, 160-F10 (1989)

What Ionizes the Interstellar Hydrogen toward PSR 0950+08 and PSR 0823+26? *R. J. Reynolds.* 348, 153, 3-A1 (1990)

The Power Requirement of the Free Electron Layer in the Galactic Disk. *R. J. Reynolds.* 349, L17, 19-C1 (1990)

REYNOLDS, RONALD J. A Comparison of Hα Intensity and Radio Wave Scattering on Eight Low-Latitude Lines of Sight. *Steven R. Spangler & Ronald J. Reynolds.* 361, 116, 158-D11 (1990)

REYNOLDS, S. P. 84 Gigahertz Observations of Five Crab-like Supernova Remnants. *C. J. Salter, S. P. Reynolds, D. E. Hogg, J. M. Payne, & P. J. Rhodes.* 338, 171, 35-B4 (1989)

REYNOLDS, STEPHEN P. Continuum Spectra of Collimated, Ionized Stellar Winds. *Stephen P. Reynolds.* 304, 713, 63-G5 (1986)

A Radio Search for Crab-like Nebulae in M33. *Stephen P. Reynolds & John D. Fix.* 322, 673, 147-B7 (1987)

Radio Observations of the Crab-like Supernova Remnant 3C 58. I. Total Intensity Observations. *Stephen P. Reynolds & Hugh D. Aller.* 327, 845, 57-G9 (1988)

Filamentary Structure in Crab-like Supernova Remnants. *Stephen P. Reynolds.* 327, 853, 58-A6 (1988)

Radio Emission from Young Supernova Remnants: Effects of an Inhomogeneous Circumstellar Medium. *John R. Dickel, Jean A. Eilek, Eric M. Jones, & Stephen P. Reynolds.* 70, 497, 25-F5 (1989)

Bipolar Supernova Remnants and the Obliquity Dependence of Shock Acceleration. *Michael S. Fulbright & Stephen P. Reynolds.* 357, 591, 120-A3 (1990)

First-Order Fermi Particle Acceleration by Relativistic Shocks. *Donald C. Ellison, Frank C. Jones, & Stephen P. Reynolds.* 360, 702, 154-G9 (1990)

RHODES, EDWARD J., JR. On the Constancy of Intermediate-Degree *p*-Mode Frequencies during the Declining Phase of Solar Cycle 21. *Edward J. Rhodes, Jr., Martin F. Woodard, Alessandro Cacciani, Steven Tomczyk, Sylvain G. Korzennik, & Roger K. Ulrich.* 326, 479, 37-E4 (1988)

Depth and Latitude Dependence of the Solar Internal Angular Velocity. *Edward J. Rhodes, Jr., Alessandro Cacciani, Sylvain Korzennik, Steven Tomczyk, Roger K. Ulrich, & Martin F. Woodard.* 351, 687, 48-F1 (1990)

RHODES, M. Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. II. RT Andromedae. *M. Zeilik, D. A. Cox, C. De Blasi, M. Rhodes, & E. Budding.* 345, 991, 162-G5 (1989)

Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. III. BH Virginis. *M. Zeilik, M. Ledlow, M. Rhodes, M. J. Arévalo, & E. Budding.* 354, 352, 78-D8 (1990)

Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. IV. WY Cancri. *M. Zeilik, D. A. Cox, M. J. Ledlow, M. Rhodes, P. A. Heckert, & E. Budding.* 363, 647, 192-B11 (1990)

RHODES, MICHAEL. A Half-Century of Starspot Activity on SV Camelopardalis. *Michael Zeilik, Cecilia De Blasi, Michael Rhodes, & Edwin Budding.* 332, 293, 126-D1 (1988)

RHODES, P. J. 84 Gigahertz Observations of Five Crab-like Supernova Remnants. *C. J. Salter, S. P. Reynolds, D. E. Hogg, J. M. Payne, & P. J. Rhodes.* 338, 171, 35-B4 (1989)

RHODES, T. L. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2\text{–}2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

RICE, J. B. Distribution of Chemical Elements over the Surface of the Magnetic Ap Star Theta Aurigae. *V. L. Khokhlova, J. B. Rice, & W. H. Wehlau.* 307, 768, 105-D1 (1986)

RICE, W. A Catalog of *IRAS* Observations of Large Optical Galaxies. *W. Rice, Carol J. Lonsdale, B. T. Soifer, G. Neugebauer, E. L. Koplan, Lawrence A. Lloyd, T. de Jong, & H. J. Habing.* 68, 91, 24-F1 (1988)

The Infrared Structure of M33. *W. Rice, F. Boulanger, F. Viallefond, B. T. Soifer, & W. L. Freedman.* 358, 418, 128-G1 (1990)

RICE, W. L. IRAS 18333–2357: An Unusual Source in M22. *F. C. Gillett, G. Neugebauer, J. P. Emerson, & W. L. Rice.* 300, 722, 11-A10 (1986)

IRAS Observations of the Nuclear Bulge of M31. *B. T. Soifer, W. L. Rice, J. R. Mould, F. C. Gillett, M. Rowan-Robinson, & H. J. Habing.* 304, 651, 63-B9 (1986)

Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, J. S. Young, B. T. Soifer, F. P. Schloerb, W. L. Rice, & G. E. Danielson.* 305, L45, 80-B12 (1986)

Physical Processes and Infrared Emission from the Cassiopeia A Supernova Remnant. *E. Dwek, H. L. Dinerstein, F. C. Gillett, M. G. Hauser, & W. L. Rice.* 315, 571, 47-A1 (1987)

The *IRAS* Bright Galaxy Sample. II. The Sample and Luminosity Function. *B. T. Soifer, D. B. Sanders, B. F. Madore, G. Neugebauer, G. E. Danielson, J. H. Elias, Carol J. Lonsdale, & W. L. Rice.* 320, 238, 110-F7 (1987)

RICE, WALTER. *IRAS* Observations of Optically Selected Galaxies. I. The Properties of the UGC Redshift Example. *Gregory D. Bothun, Carol J. Lonsdale, & Walter Rice.* 341, 129, 85-E5 (1989)

RICE, WALTER L. *IRAS* Observations of a Small Sample of Blue Irregular Galaxies. *Deidre A. Hunter, Fred C. Gillett, John S. Gallagher III, Walter L. Rice, & Frank J. Low.* 303, 171, 42-G14 (1986)

IRAS Observations of Supernova Remnants: A Comparison between Their Infrared and X-Ray Cooling Rates. *Eli Dwek, Robert Petre, Andrew Szymkowiak, & Walter L. Rice.* 320, L27, 114-C4 (1987)

IRAS Observations of a Large Sample of Normal Irregular Galaxies. *Deidre A. Hunter, John S. Gallagher III, Walter L. Rice, & Fred C. Gillett.* 336, 152, 3-A1 (1989)

Global Properties of Infrared Bright Galaxies. *Judith S. Young, Shuding Xie, Jeffrey D. P. Kenney, & Walter L. Rice.* 70, 699, 29-C1 (1989)

RICH, J. Testing the Weakly Interacting, Massive Particle Explanation of the Solar Neutrino Puzzle with Conventional Silicon Detectors. *B. Sadoulet, J. Rich, M. Spiro, & D. O. Caldwell.* 324, L75, 18-D8 (1988)

RICH, R. MICHAEL. Luminous M Giants in the Bulge of M31. *R. Michael Rich, Jeremy Mould, Alain Picard, Jay A. Frogel, & Roger Davies.* 341, L51, 99-F4 (1989)

A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

Does G29–38 Have a Massive Companion? *James R. Graham, James K. McCarthy, I. Neill Reid, & R. Michael Rich.* 357, L21, 115-D2 (1990)

Kinematics and Abundances of K Giants in the Nuclear Bulge of the Galaxy. *R. Michael Rich.* 362, 604, 178-C5 (1990)

RICHARDS, B. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2\text{–}2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

RICHARDS, C. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

RICHARDS, MERCEDES T. The RS Canum Venaticorum Characteristics of the Infrared Light Curves of Algol. *Mercedes T. Richards.* 350, 372, 29-E9 (1990)

RICHARDS, P. L. The Submillimeter Spectrum of the Cosmic Background Radiation. *T. Matsumoto, S. Hayakawa, H. Matsuo, H. Murakami, S. Sato, A. E. Lange, & P. L. Richards.* 329, 567, 82-G5 (1988)

Anisotropy of the Diffuse Background at Millimeter Wavelengths. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 337, L1, 25-A6 (1989)

A Measurement of the Spectrum of the Cosmic Background Radiation from 1 to 3 Millimeter Wavelength. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 362, 107, 170-D9 (1990)

RICHARDSON, I. G. Quiet-Time Properties of Low-Energy (< 10 MeV per Nucleon) Interplanetary Ions during Solar Maximum and

Solar Minimum. *I. G. Richardson, D. V. Reames, K.-P. Wenzel, & J. Rodriguez-Pacheco.* 363, L9, 187-B1 (1990)

RICHARDSON, JOHN D. Predicted Satellite Plasma Tori in the Magnetosphere of Uranus. *Aharon Eviatar & John D. Richardson.* 300, L99, 13-G6 (1986)

RICHARDSON, K. J. Submillimeter Wavelength Molecular Spectroscopy of the Orion Molecular Cloud. *Glenn J. White, L. W. Avery, K. J. Richardson, & J. C. G. Lesurf.* 302, 701, 38-C9 (1986)

RICHARDSON, K. M. Corrections to Virial Estimates of Molecular Cloud Masses. *I. MacLaren, K. M. Richardson, & A. W. Wolfendale.* 333, 821, 149-C7 (1988)

RICHARDSON, MARTIN B. Thermal Evolution of Accreting Neutron Stars. II. Long X-Ray Bursts as a Probe into the Interior. *Masayuki Y. Fujimoto, Tomoyuki Hanawa, Icko Iben, Jr., & Martin B. Richardson.* 315, 198, 42-B9 (1987)

RICHER, HARVEY B. Ultraviolet-Excess Objects in the Field of NGC 6121 (M4). *Edmond Chan & Harvey B. Richer.* 302, 257, 30-G9 (1986)

Deep CCD Photometry in Globular Clusters. IV. M13. *Harvey B. Richer & Gregory G. Fahlman.* 304, 273, 57-A1 (1986)

Mass Functions for Globular Cluster Main Sequences Based on CCD Photometry and Stellar Models. *Robert D. McClure, Don A. VandenBerg, Graeme H. Smith, Gregory G. Fahlman, Harvey B. Richer, James E. Hesser, William E. Harris, Peter B. Stetson, & R. A. Bell.* 307, L49, 107-B10 (1986)

Deep CCD Photometry in Globular Clusters. V. M5. *Harvey B. Richer & Gregory G. Fahlman.* 316, 189, 52-A13 (1987)

The Late-Type Stellar Content of NGC 55. *Christopher J. Pritchet, Harvey B. Richer, David Schade, Dennis Crabtree, & H. K. C. Yee.* 323, 79, 154-A3 (1987)

Deep CCD Photometry in Globular Clusters. VI. White Dwarfs, Cataclysmic Variables, and Binary Stars in M71. *Harvey B. Richer & Gregory G. Fahlman.* 325, 218, 21-E2 (1988)

Deep CCD Photometry in Globular Clusters. VII. M30. *Harvey B. Richer, Gregory G. Fahlman, & Don A. VandenBerg.* 329, 187, 77-B2 (1988)

Star Counts in the Globular Cluster M71. *Harvey B. Richer & Gregory G. Fahlman.* 339, 178, 52-C1 (1989)

Hot Subdwarfs in Globular Clusters. *Gordon A. Drukier, Gregory G. Fahlman, & Harvey B. Richer.* 342, L27, 109-C4 (1989)

Faint Star Counts in NGC 6397. *Gregory G. Fahlman, Harvey B. Richer, Leonard Searle, & Ian B. Thompson.* 343, L49, 132-C1 (1989)

Late-Type Stars in an Inner and Far Disk Field of M31. *Harvey B. Richer, Dennis R. Crabtree, & Christopher J. Pritchet.* 355, 448, 94-A5 (1990)

Low-Luminosity Stellar Mass Functions in Globular Clusters. *Harvey B. Richer, Gregory G. Fahlman, Roberto Buonanno, & Flavio Fusi Pecci.* 359, L11, 138-B3 (1990)

RICHER, JACQUES. On the Origin of Lithium. *Hubert Reeves, Jacques Richer, Katsuhiko Sato, & Nobuo Terasawa.* 355, 18, 87-C3 (1990)

RICHER, MICHAEL G. Getting to the Bottom of the Lagoon: Dust, Magnetism, and Star Formation. *Marshall L. McCall, Michael G. Richer, & N. Visvanathan.* 357, 502, 118-G1 (1990)

RICHICHI, ANDREA. Evidence of Pulsation and Circumstellar Shells in Late-Type Giants by Means of Lunar Occultations. *Andrea Richichi, Piero Salinari, & Franco Lisi.* 326, 791, 42-C5 (1988)

RICHOU, J. Temperature Dependence of Stark Parameters for Fe I Lines. *A. Lesage, J. L. Lebrun, & J. Richou.* 360, 737, 155-C7 (1990)

RICHSTONE, D. O. New Measurements of Stellar Kinematics in the Core of M87. *Alan Dressler & D. O. Richstone.* 348, 120, 2-E1 (1990)

RICHSTONE, DOUGLAS. Constraints on the Mass Distribution near the Centers of M31 and M32. *Douglas Richstone, Gary Bower, & Alan Dressler.* 353, 118, 63-E5 (1990)

RICHSTONE, DOUGLAS O. Dynamics of the Elliptical Galaxy NGC 7097 Measured from Gas and Stars. *Nelson Caldwell, Robert P. Kirshner, & Douglas O. Richstone.* 305, 136, 68-D10 (1986)

Dynamical Models of a Sample of Population II Stars. *Harold F. Levison & Douglas O. Richstone.* 308, 627, 115-G3 (1986)

Triaxial Scale-free Models of Highly Flattened Elliptical Galaxies with and without Massive Halos. *Harold F. Levison & Douglas O. Richstone.* 314, 476, 34-F9 (1987)

Stellar Dynamics in the Nuclei of M31 and M32: Evidence for Massive Black Holes. *Alan Dressler & Douglas O. Richstone.* 324, 701, 11-A7 (1988)

Tidal Limitation of Stellar Systems on Both Circular and Elongated Orbits. *Anthony J. Allen & Douglas O. Richstone.* 325, 583, 27-A1 (1988)

Maximum-Entropy Models of Galaxies. *Douglas O. Richstone & Scott Tremaine.* 327, 82, 47-G9 (1988)

The Formation of Clusters of Galaxies Containing Dark Matter. *Michael J. West & Douglas O. Richstone.* 335, 532, 178-C9 (1988)

RICHTER, A. Radiative Transitions in ^{27}Al and Their Relevance to the ^{26}Al$(p,\gamma)^{27}$Si Reaction under Stellar Conditions. *C. Rangacharyulu, G. Kuechler, A. Richter, & E. Spamer.* 320, 405, 112-D9 (1987)

RICKARD, G. J. Sheared Coronal Arcades: An Evaluation of Recent Studies. *I. J. D. Craig, G. J. Rickard, & A. D. Sneyd.* 365, L35, 212-D6 (1990)

RICKARD, LEE J. Infrared Cirrus and High-Latitude Molecular Clouds. *Janet L. Weiland, Leo Blitz, Eli Dwek, M. G. Hauser, Loris Magnani, & Lee J Rickard.* 306, L101, 94-B6 (1986)

Hydrodynamical Processes in the Draco Molecular Cloud. *Sten F. Odenwald & Lee J Rickard.* 318, 702, 88-E7 (1987)

The Far-Infrared Structure of the Luminous Interacting Galaxy Arp 299 (NGC 3690). *Marshall Joy, Daniel F. Lester, Paul M. Harvey, C. M. Telesco, Rudolf Decher, Lee J Rickard, & Howard Bushouse.* 339, 100, 51-C8 (1989)

On the Nature of the Molecular Cores in High-Latitude Cirrus Clouds. I. A Survey of H_2CO (2 Centimeter), C_3H_2, and HC_3N. *B. E. Turner, Lee J Rickard, & Lan-ping Xu.* 344, 292, 136-F2 (1989)

CO($J = 2 \rightarrow 1$) Study of Molecular Clouds in the Southwest Arm of M31. *Marc L. Kutner, Frances Verter, & Lee J Rickard.* 365, 195, 208-E11 (1990)

RICKER, GEORGE R. Deep Optical and Radio Searches for a Quiescent Counterpart to the Optical Transient Source OTS 1809+31. *George R. Ricker, Patrick C. Mock, Edward A. Ajhar, & Roland K. Vanderspek.* 338, 983, 46-B1 (1989)

RICKETT, B. J. Refractive Interstellar Scintillations of Radio Sources. *B. J. Rickett.* 307, 564, 103-B6 (1986)

Frequency Dependence of Pulsar Profiles. *T. H. Hankins & B. J. Rickett.* 311, 684, 155-C5 (1986)

Refractive Scintillation in the Interstellar Medium. *W. A. Coles, R. G. Frehlich, B. J. Rickett, & J. L. Codona.* 315, 666, 48-A1 (1987)

Observations of Field-aligned Density Fluctuations in the Inner Solar Wind. *J. W. Armstrong, W. A. Coles, M. Kojima, & B. J. Rickett.* 358, 685, 132-B1 (1990)

RICORT, G. New Observations of Alpha Orionis with a Rotation Shearing Interferometer. *F. Roddier, C. Roddier, R. Petrov, F. Martin, G. Ricort, & C. Aime.* 305, L77, 80-D13 (1986)

RIDGWAY, S. T. The IRC +10216 Circumstellar Envelope. I. Models for the Dust and Gas. *J. J. Keady, Donald N. B. Hall, & S. T. Ridgway.* 326, 832, 42-F6 (1988)

2.0 to 2.4 Micron Spectroscopy of T Tauri Stars. *F. Hamann, M. Simon, & S. T. Ridgway.* 326, 859, 43-A5 (1988)

RIDGWAY, STEPHEN T. The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 302, 662, 37-G8 (1986)

The Dust Shells of NML Cygnus and IRC 10420: Inner Radius, Temperature, and Optical Thickness: Erratum. *Stephen T. Ridgway, Richard R. Joyce, Dennis Connors, Judith L. Pipher, & Christopher Dainty.* 312, 963, 13-E1 (1987) (Orig. paper in 302, 662, 37-G8 (1986))

The IRC +10216 Circumstellar Envelope. II. Spatial Measurements of the Dust. *Stephen T. Ridgway & John J. Keady.* 326, 843, 42-G3 (1988)

RIEGER, E. Rapid Acceleration of Energetic Particles in the 1982 February 8 Solar Flare. *S. R. Kane, E. L. Chupp, D. J. Forrest, G. H. Share, & E. Rieger.* 300, L95, 13-G2 (1986)

The Directivity of High-Energy Emission from Solar Flares. II. *Solar Maximum Mission* Observations. *W. Thomas Vestrand, D. J. Forrest, E. L. Chupp, E. Rieger, & G. H. Share.* 322, 1010, 151-A7 (1987)
Search for Doppler-shifted Gamma-Ray Emission from SS 433 Using the *SMM* Spectrometer. *B. J. Geldzahler, G. H. Share, R. L. Kinzer, J. Magura, E. L. Chupp, & E. Rieger.* 342, 1123, 116-A5 (1989)
A High-Speed Shock Wave in the Impulsive Phase of the 1984 April 24 Flare. *H. Nakajima, S. Kawashima, N. Shinohara, Y. Shiomi, S. Enome, & E. Rieger.* 73, 177, 20-B1 (1990)
RIEGLER, GUENTER R. The Gamma-Ray Spectrum of the Galactic Center Region: Erratum. *Guenter R. Riegler, James C. Ling, William A. Mahoney, Wm. A. Wheaton, & Allan S. Jacobson.* 305, L33, 74-C6 (1986) (Orig. paper in 294, L13, 71-E12 (1985))
RIEKE, G. H. Observations of Upper-Level Hydrogen Lines in Seyfert 1 Galaxies. *Christopher W. McAlary, G. H. Rieke, M. J. Lebofsky, & John T. Stocke.* 301, 105, 15-B4 (1986)
Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)
The Luminosity Function for Field Galaxies in the Infrared. *G. H. Rieke & M. J. Lebofsky.* 304, 326, 57-D13 (1986)
Broad-Band Properties of the CfA Seyfert Galaxies. II. Infrared to Millimeter Properties. *R. A. Edelson, M. A. Malkan, & G. H. Rieke.* 321, 233, 124-G1 (1987)
NGC 253 and a Proposed Sequence for Nuclear Starbursts. *G. H. Rieke, M. J. Lebofsky, & C. E. Walker.* 325, 679, 28-A9 (1988)
Stellar Velocities and the Mass Distribution in the Galactic Center. *G. H. Rieke & M. J. Rieke.* 330, L33, 96-F1 (1988)
Hard X-Ray Observations of Ultraluminous Infrared Galaxies. *G. H. Rieke.* 331, L5, 114-A10 (1988)
Deep 2 Micron Imaging of the Sky: Evidence for a New Extragalactic Population. *R. Elston, G. H. Rieke, & M. J. Rieke.* 331, L77, 121-C13 (1988)
A Near-Infrared and Optical Study of X-Ray Selected Seyfert Galaxies. II. Models and Interpretation. *Christopher W. McAlary & G. H. Rieke.* 333, 1, 138-A9 (1988)
Origin of the Excitation of the Galactic Center. *G. H. Rieke, M. J. Rieke, & A. E. Paul.* 336, 752, 11-F6 (1989)
The Initial Mass Function in the Rho Ophiuchi Cluster. *G. H. Rieke, N. M. Ashok, & R. P. Boyle.* 339, L71, 66-D1 (1989)
Observations of Deep 2 Micron Survey Galaxies: Primeval Galaxy Candidates. *R. Elston, M. J. Rieke, & G. H. Rieke.* 341, 80, 85-A4 (1989)
Inhibition of Star Formation in Sa Galaxies. *S. M. Pompea & G. H. Rieke.* 342, 250, 104-A3 (1989)
Ionization of the Mass-Loss Wind of the M Supergiant IRS 7 by the Ultraviolet Flux in the Galactic Center. *G. H. Rieke & M. J. Rieke.* 344, L5, 140-A11 (1989)
A Test of the Association of Infrared Activity with Bars. *Stephen M. Pompea & G. H. Rieke.* 356, 416, 105-D8 (1990)
60 Micron Luminosity Evolution of Rich Clusters of Galaxies. *D. M. Kelly & G. H. Rieke.* 361, 354, 162-E5 (1990)
Possible Substellar Objects in the Rho Ophiuchi Cloud. *G. H. Rieke & M. J. Rieke.* 362, L21, 174-C7 (1990)
RIEKE, GEORGE. Possible Pleiades Members with $\mathcal{M} \cong 0.07$ $\mathcal{M}_\odot$: Identification of Brown Dwarf Candidates of Known Age, Distance, and Metallicity. *John Stauffer, Donald Hamilton, Ronald Probst, George Rieke, & Mario Mateo.* 344, L21, 140-B13 (1989)
Probing Intermediate Seyfert Galaxies by Paβ Spectroscopy. *Hans-Walter Rix, N. P. Carleton, George Rieke, & Marcia Rieke.* 363, 480, 190-B5 (1990)
RIEKE, GEORGE H. 2 Micron Spectroscopy of Nearby Galaxies and Evidence for a Late-Phase Starburst in NGC 4736. *Constance E. Walker, Marcia J. Lebofsky, & George H. Rieke.* 325, 687, 28-B3 (1988)
RIEKE, M. J. Stellar Velocities and the Mass Distribution in the Galactic Center. *G. H. Rieke & M. J. Rieke.* 330, L33, 96-F1 (1988)
Deep 2 Micron Imaging of the Sky: Evidence for a New Extragalactic Population. *R. Elston, G. H. Rieke, & M. J. Rieke.* 331, L77, 121-C13 (1988)
Origin of the Excitation of the Galactic Center. *G. H. Rieke, M. J. Rieke, & A. E. Paul.* 336, 752, 11-F6 (1989)
Observations of Deep 2 Micron Survey Galaxies: Primeval Galaxy Candidates. *R. Elston, M. J. Rieke, & G. H. Rieke.* 341, 80, 85-A4 (1989)
Ionization of the Mass-Loss Wind of the M Supergiant IRS 7 by the Ultraviolet Flux in the Galactic Center. *G. H. Rieke & M. J. Rieke.* 344, L5, 140-A11 (1989)
Possible Substellar Objects in the Rho Ophiuchi Cloud. *G. H. Rieke & M. J. Rieke.* 362, L21, 174-C7 (1990)
RIEKE, MARCIA. Probing Intermediate Seyfert Galaxies by Paβ Spectroscopy. *Hans-Walter Rix, N. P. Carleton, George Rieke, & Marcia Rieke.* 363, 480, 190-B5 (1990)
RIETMEIJER, FRANS J. M. Sulides and Oxides in Comets. *Frans J. M. Rietmeijer.* 331, L137, 122-B1 (1988)
RIFFERT, H. A General Eulerian Formulation of the Comoving-Frame Equation of Radiative Transfer. *H. Riffert.* 310, 729, 142-A1 (1986)
On the Radius of Neutron Stars. *P. Mészáros & H. Riffert.* 323, L127, 164-D3 (1987)
On the Nonpulsation of QPOs and Galactic Bulge Neutron Star X-Ray Sources. *P. Mészáros, H. Riffert, & G. Berthiaume.* 325, 204, 21-D2 (1988)
Gravitational Light Bending near Neutron Stars. I. Emission from Columns and Hot Spots. *H. Riffert & P. Mészáros.* 325, 207, 21-D5 (1988)
Gravitational Light Bending near Neutron Stars. II. Accreting Pulsar Spectra as a Function of Phase. *P. Mészáros & H. Riffert.* 327, 712, 56-D8 (1988)
A Self-consistent Shock Solution for Radiation-Dominated Flows. *H. Riffert.* 327, 760, 57-A1 (1988)
Magnetized Neutron Stars as Gamma-Ray Bursters: Detection Rates at High Energies. *P. Mészáros, Z. Bagoly, & H. Riffert.* 337, L23, 25-C1 (1989)
High-Energy Gamma-Ray Absorption in Relativistic Magnetospheres. *H. Riffert, P. Mészáros, & Z. Bagoly.* 340, 443, 72-F8 (1989)
RIGLER, M. Infrared Spectroscopy, Imaging, and 10 Micron Photometry of Giclas 29-38. *A. T. Tokunaga, K.-W. Hodapp, E. E. Becklin, D. P. Cruikshank, M. Rigler, D. Toomey, R. H. Brown, & B. Zuckerman.* 332, L71, 137-D1 (1988)
RINGUELET, A. E. Oscillations in Stellar Atmospheres. *A. Costa, J. M. Fontenla, & A. E. Ringuelet.* 339, 314, 54-A5 (1989)
RINGUELET, ADELA. Analysis of the Velocity Law in the Wind of the Be Star λ Pavonis. *Haiqi Chen, Adela Ringuelet, Jorge Sahade, & Yoji Kondo.* 347, 1082, 197-A1 (1989)
RINGUELET, ADELA E. The Extended Atmosphere of λ Pavonis at the Time of the Emergence of H-Emissions from Minimum Intensity. *Jorge Sahade, Marta Rovira, Adela E. Ringuelet, Yoji Kondo, & Lydia Cidale.* 327, 335, 50-F1 (1988)
RINGWALD, F. A. Evolution of Low-Mass Close Binary Systems. *P. N. McDermott, Ronald E. Taam, & F. A. Ringwald.* 328, 617, 69-G9 (1988)
RITTER, H. The Evolution of Magnetic Cataclysmic Variables. *J. M. Hameury, A. R. King, J.-P. Lasota, & H. Ritter.* 316, 275, 53-A9 (1987)
The Period Distribution of Cataclysmic Variables. *J. M. Hameury, A. R. King, J. P. Lasota, & H. Ritter.* 327, L77, 61-D10 (1988)
RITZ, C. P. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2–2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)
RIVOLO, A. R. The Two-Point Galaxy Correlation Function of the Local Supercluster. *A. R. Rivolo.* 301, 70, 14-F9 (1986)
The Massachusetts–Stony Brook Galactic Plane CO Survey: Statistical Clustering Properties of Molecular Cloud Cores. *A. R. Rivolo, P. M. Solomon, & D. B. Sanders.* 301, L19, 20-C5 (1986)

Mass, Luminosity, and Line Width Relations of Galactic Molecular Clouds. *P. M. Solomon, A. R. Rivolo, J. Barrett, & A. Yahil.* 319, 730, 103-A8 (1987)

A Face-on View of the First Galactic Quadrant in Molecular Clouds. *P. M. Solomon & A. R. Rivolo.* 339, 919, 63-B3 (1989)

A Study of the Baldwin Effect in the *IUE* Data Set. *A. L. Kinney, A. R. Rivolo, & A. P. Koratkar.* 357, 338, 116-G1 (1990)

RIX, HANS-WALTER. Quasar Microlensing and Dark Matter. *Hans-Walter Rix & Craig J. Hogan.* 332, 108, 124-C6 (1988)

Disks in Elliptical Galaxies. *Hans-Walter Rix & Simon D. M. White.* 362, 52, 169-F5 (1990)

Probing Intermediate Seyfert Galaxies by Paβ Spectroscopy. *Hans-Walter Rix, N. P. Carleton, George Rieke, & Marcia Rieke.* 363, 480, 190-B5 (1990)

ROBBA, N. R. Time Variability of Gamma Cassiopeiae in X-Rays. *F. Frontera, D. Dal Fiume, N. R. Robba, G. Manzo, S. Re, & E. Costa.* 320, L127, 121-D13 (1987)

EXOSAT Observations of the Tycho Supernova Remnant. *A. Smith, J. Davelaar, A. Peacock, B. G. Taylor, M. Morini, & N. R. Robba.* 325, 288, 22-C7 (1988)

EXOSAT Observations of the Supernova Remnant G109.1–1.0 and the X-Ray Pulsar 1E 2259+586. *M. Morini, N. R. Robba, A. Smith, & M. van der Klis.* 333, 777, 148-G1 (1988)

X-Ray Timing and Spectral Measurements of X Persei. *N. R. Robba & R. S. Warwick.* 346, 469, 172-A1 (1989)

ROBERGE, W. G. A New Class of Solutions for Interstellar Magnetohydrodynamic Shock Waves. *W. G. Roberge & B. T. Draine.* 350, 700, 34-F13 (1990)

ROBERT, C. Photometry and Polarimetry of the Unusual WN5 Star EZ Canis Majoris. *L. Drissen, C. Robert, R. Lamontagne, A. F. J. Moffat, N. St-Louis, N. van Weeren, & A. M. van Genderen.* 343, 426, 123-C13 (1989)

ROBERT, CARMELLE. Polarization Variability among Wolf-Rayet Stars. III. A New Way to Derive Mass-Loss Rates for Wolf-Rayet Stars in Binary Systems. *Nicole St-Louis, Anthony F. J. Moffat, Laurent Drissen, Pierre Bastien, & Carmelle Robert.* 330, 286, 93-C4 (1988)

Spectroscopic Evidence for Rapid Blob Ejection in Wolf-Rayet Stars. *Anthony F. J. Moffat, Laurent Drissen, Robert Lamontagne, & Carmelle Robert.* 334, 1038, 168-A5 (1988)

Detection of Circular Polarization in R Monocerotis and NGC 2261: Implications for the Polarization Mechanism. *François Ménard, Pierre Bastien, & Carmelle Robert.* 335, 290, 173-F9 (1988)

Circular Polarization in T Tauri Stars. II. New Observations and Evidence for Multiple Scattering. *Pierre Bastien, Carmelle Robert, & Raymond Nadeau.* 339, 1089, 65-B4 (1989)

Polarization Variability among Wolf-Rayet Stars. IV. A Complete Lack of Circular Polarization in the Optical Continuum. *Carmelle Robert & Anthony F. J. Moffat.* 343, 902, 130-D3 (1989)

Polarization Variability among Wolf-Rayet Stars. V. Linear Polarization of the Bright Cygnus Stars and an Anticorrelation of Variability with Wind Speed. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Laurent Drissen, & Nicole St-Louis.* 347, 1034, 196-D5 (1989)

Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)

Polarization Variability among Wolf-Rayet Stars. VI. Linear Polarimetry of the Eclipsing Binary V444 Cygni. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Nicole St-Louis, & Laurent Drissen.* 359, 211, 136-F3 (1990)

ROBERTS, B. On the Behavior of Hydromagnetic Surface Waves. *Martin A. Lee & B. Roberts.* 301, 430, 18-E5 (1986)

On Magnetohydrodynamic Solitons in Jets. *B. Roberts.* 318, 590, 87-D1 (1987)

The Influence of a Chromospheric Magnetic Field on the Solar *p*- and *f*-Modes. *W. R. Campbell & B. Roberts.* 338, 538, 39-D8 (1989)

The Oscillations of a Magnetic Flux Tube and Its Application to Sunspots. *David J. Evans & B. Roberts.* 348, 346, 5-C9 (1990)

The Influence of a Chromospheric Magnetic Field on the Solar *p*- and *f*-Modes. II. Uniform Chromospheric Field. *David J. Evans & B. Roberts.* 356, 704, 109-A5 (1990)

ROBERTS, D. H. The Linear Polarization of 3C 345 at Milliarcsecond Resolution. *J. F. C. Wardle, D. H. Roberts, R. I. Potash, & A. E. E. Rogers.* 304, L1, 61-A4 (1986)

Linear Polarization Structure of the BL Lacertae Object OJ 287 at Milliarcsecond Resolution. *D. H. Roberts, D. C. Gabuzda, & J. F. C. Wardle.* 323, 536, 160-E5 (1987)

Superluminal Motion in the BL Lacertae Object OJ 287. *D. C. Gabuzda, J. F. C. Wardle, & D. H. Roberts.* 336, L59, 16-F1 (1989)

Linear Polarization Structure of the BL Lacertae Object 0735+178 at Milliarcsecond Resolution. *D. C. Gabuzda, J. F. C. Wardle, & D. H. Roberts.* 338, 743, 43-A10 (1989)

The Milliarcsecond Polarization Structure of Six BL Lacertae Objects. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 347, 701, 192-A5 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

Milliarcsecond Polarization Structure of the Superluminal Quasar 3C 273. *D. H. Roberts, R. I. Kollgaard, L. F. Brown, D. C. Gabuzda, & J. F. Wardle.* 360, 408, 151-D1 (1990)

ROBERTS, DANA AARON. Knots, Wiggles, and Flaring in Ballistic and Stochastic Jets. *Dana Aaron Roberts.* 300, 568, 9-D1 (1986)

ROBERTS, E. H. High-Resolution Imaging and the H-R Diagram of Galactic Bulge Planetary Nebulae. *M. A. Dopita, J. P. Henry, I. R. Tuohy, B. L. Webster, E. H. Roberts, Y.-I. Byun, L. L. Cowie, & A. Songaila.* 365, 640, 216-B10 (1990)

ROBERTS, F. E. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

ROBERTS, J. A. A Detailed Study of the Remnant of Nova GK Persei and Its Environs. *E. R. Seaquist, M. F. Bode, D. A. Frail, J. A. Roberts, A. Evans, & J. S. Albinson.* 344, 805, 144-C1 (1989)

ROBERTS, MORTON S. H I in Giant Elliptical Galaxies with Cooling Flows. *Joel N. Bregman, Morton S. Roberts, & Riccardo Giovanelli.* 330, L93, 104-F7 (1988)

Radio Emission from Supernovae. I. One to Twelve Year Old Supernovae. *Kurt W. Weiler, Nino Panagia, Richard A. Sramek, J. M. van der Hulst, Morton S. Roberts, & Linh Nguyen.* 336, 421, 6-D2 (1989)

H I in the Giant Elliptical Galaxy NGC 4406. *Joel N. Bregman & Morton S. Roberts.* 362, 468, 176-C11 (1990)

ROBERTS, W. The Discovery of Eight Bright Active Galactic Nuclei Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, H. V. Bradt, D. A. H. Buckley, W. Roberts, D. A. Schwartz, I. R. Tuohy, & K. Wood.* 301, 742, 23-F5 (1986)

H0538+608: A Bright AM Herculis–Type X-Ray Source. *R. A. Remillard, H. V. Bradt, J. E. McClintock, J. Patterson, W. Roberts, D. A. Schwartz, & S. Tapia.* 302, L11, 35-A13 (1986)

ROBERTS, WILLIAM W., JR. The Role of Orbital Dynamics and Cloud-Cloud Collisions in the Formation of Giant Molecular Clouds in Global Spiral Structures. *William W. Roberts, Jr., & Glen R. Stewart.* 314, 10, 28-B4 (1987)

ROBERTSON, J. GORDON. Observations of High-Redshift Ca II Absorption in QSO Spectra. *J. Gordon Robertson, Donald C. Morton, J. Chris Blades, Donald G. York, & David M. Meyer.* 325, 635, 27-D13 (1988)

ROBINSON, C. R. A Multiwavelength Study of the Carlson-Henize Sample of Early-Type Galactic Extreme Emission-Line Stars. *Steven N. Shore, Douglas N. Brown, B. W. Bopp, C. R. Robinson, N. Sanduleak, & P. D. Feldman.* 73, 461, 24-F11 (1990)

ROBINSON, E. L. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

ROBINSON, EDWARD L. On the Discordant Measurements of the Radial Velocity Curve of the Late-Type Star in the Dwarf Nova SS Cygni. *Edward L. Robinson, E.-H. Zhang, & Richard J. Stover.* 305, 732, 77-A1 (1986)

The Eclipses of Cataclysmic Variables. I. HT Cassiopeiae. *E.-H. Zhang, Edward L. Robinson, & R. Edward Nather.* 305, 740, 77-A9 (1986)

Detection of Superhumps and Quasi-periodic Oscillations in the Light Curve of the Dwarf Nova SW Ursae Majoris. *Edward L. Robinson, Allen W. Shafter, J. Allen Hill, Matt A. Wood, & Janet A. Mattei.* 313, 772, 25-C2 (1987)

The Eclipses of Cataclysmic Variables. II. U Geminorum. *E.-H. Zhang & Edward L. Robinson.* 321, 813, 133-D8 (1987)

An Upper Limit to the Space Density of Short-period Noninteracting Binary White Dwarfs. *Edward L. Robinson & Allen W. Shafter.* 322, 296, 141-B1 (1987)

Detection of the Optical Counterparts of the 555 Second X-Ray Pulsations from V471 Tauri. *Edward L. Robinson, J. Christopher Clemens, & Butler P. Hine.* 331, L29, 114-C6 (1988)

V795 Herculis (PG 1711+336): A New Intermediate Polar in the Period Gap. *Allen W. Shafter, Edward L. Robinson, David Crampton, Brian Warner, & Richard M. Prestage.* 354, 708, 85-B1 (1990)

ROBINSON, P. A. Escape of Fundamental Electron-Cyclotron Maser Emission from the Sun and Stars. *P. A. Robinson.* 341, L99, 100-C5 (1989)

ROBINSON, RICHARD D. Chromospheric Hα and Ca II Lines in Late-Type Stars. *Richard D. Robinson, Lawrence E. Cram, & Mark S. Giampapa.* 74, 891, 43-G7 (1990)

ROBINSON, RONALD R. C_2 in Comet Halley: Evidence for Its Being Third Generation and Resolution of the Vibrational Population Discrepancy. *C. R. O'Dell, Ronald R. Robinson, K. S. Krishna Swamy, Patrick J. McCarthy, & Hyron Spinrad.* 334, 476, 160-B1 (1988)

ROBSON, E. I. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)

Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)

Multifrequency Observations of Blazars. IV. The Variability of the Radio to Ultraviolet Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, & M. G. Smith.* 340, 150, 69-A2 (1989)

ROBY, SCOTT W. Carbon, Nitrogen, and Oxygen Abundances in the Chemically Peculiar Stars of the Upper Main Sequence. *Scott W. Roby & David L. Lambert.* 73, 67, 17-G9 (1990)

ROCCHIA, R. *EXOSAT* Observations of the Kepler Supernova Remnant. *A. Smith, A. Peacock, M. Arnaud, J. Ballet, R. Rothenflug, & R. Rocchia.* 347, 925, 195-A9 (1989)

RODDIER, C. New Observations of Alpha Orionis with a Rotation Shearing Interferometer. *F. Roddier, C. Roddier, R. Petrov, F. Martin, G. Ricort, & C. Aime.* 305, L77, 80-D13 (1986)

RODDIER, F. New Observations of Alpha Orionis with a Rotation Shearing Interferometer. *F. Roddier, C. Roddier, R. Petrov, F. Martin, G. Ricort, & C. Aime.* 305, L77, 80-D13 (1986)

RODGERS, A. W. Chromospheres of Two Red Giants in NGC 6752. *A. K. Dupree, G. M. Harper, L. Hartmann, Carole Jordan, A. W. Rodgers, & Graeme H. Smith.* 361, L9, 161-D4 (1990)

RODRÍGUEZ, L. F. The Double Radio Source Associated with L1551 IRS 5: Binary System or Ionized Circumstellar Torus? *L. F. Rodríguez, J. Cantó, J. M. Torrelles, & P. T. P. Ho.* 301, L25, 20-C10 (1986)

OH Outflows in Star-forming Regions. *I. F. Mirabel, A. Ruiz, L. F. Rodríguez, & J. Cantó.* 318, 729, 89-A1 (1987)

Are the High-Velocity Molecular Flows Really Clumpy? *J. Cantó, L. F. Rodríguez, & G. Anglada.* 321, 877, 134-B8 (1987)

Anomalous OH Emission in Galactic Star-forming Regions: A Clue to the Megamaser Phenomenon? *I. F. Mirabel, L. F. Rodríguez, & A. Ruiz.* 346, 180, 168-C11 (1989)

Large Proper Motions in the Remarkable Triple Radio Source in Serpens. *L. F. Rodríguez, S. Curiel, J. M. Moran, I. F. Mirabel, M. Roth, & G. Garay.* 346, L85, 181-D9 (1989)

Radio Continuum Observations of *IRAS* Sources Associated with Dense Cores. *L. F. Rodríguez, P. C. Myers, I. Cruz-González, & S. Terebey.* 347, 461, 187-F11 (1989)

The Large Scattering Disk of NGC 6334B. *J. M. Moran, L. F. Rodríguez, B. Greene, & D. C. Backer.* 348, 147, 2-G4 (1990)

VLA Observations of High-Velocity H I Associated with the Herbig-Haro Objects 7–11. *L. F. Rodríguez, S. Lizano, J. Cantó, V. Escalante, & I. F. Mirabel.* 365, 261, 209-F5 (1990)

The Exciting Source of the Bipolar Outflow in L1448. *S. Curiel, J. C. Raymond, L. F. Rodríguez, J. Cantó, & J. M. Moran.* 365, L85, 219-F5 (1990)

RODRÍGUEZ, LUIS F. The Kinematic Temperature Gradient and the Structure of a Thin Molecular Disk in Cepheus A. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 305, 721, 76-F10 (1986)

Ammonia Observations of Regions with Molecular Outflows. *José M. Torrelles, Paul T. P. Ho, James M. Moran, Luis F. Rodríguez, & Jorge Cantó.* 307, 787, 105-E9 (1986)

Rotating and Expanding Ultracompact H II Regions. *Guido Garay, Luis F. Rodríguez, & J. H. van Gorkom.* 309, 553, 127-C4 (1986)

Interaction of the High-Density Gas with the Bipolar Outflow in Cepheus A. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & James M. Moran.* 321, 884, 134-C1 (1987)

Neutral Stellar Winds That Drive Bipolar Outflows in Low-Mass Protostars. *Susana Lizano, Carl Heiles, Luis F. Rodríguez, Bon-Chul Koo, Frank H. Shu, T. Hasegawa, S. Hayashi, & I. F. Mirabel.* 328, 763, 71-D7 (1988)

The Bipolar H II Region NGC 6334A. *Luis F. Rodríguez, Jorge Cantó, & James M. Moran.* 333, 801, 149-B1 (1988)

VLA Observations of the High-Velocity Bipolar OH Absorption in L1551. *Luis F. Rodríguez, Jorge Cantó, I. Félix Mirabel, & Abraham Ruiz.* 337, 712, 27-G1 (1989)

Ammonia Observations of Outflow Regions. *Guillem Anglada, Luis F. Rodríguez, José M. Torrelles, Robert Estalella, Paul T. P. Ho, Jorge Cantó, Rosario López, & Lourdes Verdes-Montenegro.* 341, 208, 86-E1 (1989)

NH_3 Observations of the AFGL 2591 Region: A Possible Cavity in the Molecular Cloud. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 343, 222, 121-A5 (1989)

The Distance to NGC 6302. *Yolanda Gómez, James M. Moran, Luis F. Rodríguez, & Guido Garay.* 345, 862, 161-C10 (1989)

Further Studies of the Role of Dense Molecular Clouds around Outflow Sources. *Lourdes Verdes-Montenegro, José M. Torrelles, Luis F. Rodríguez, Guillem Anglada, Rosario López, Robert Estalella, Jorge Cantó, & Paul T. P. Ho.* 346, 193, 168-E1 (1989)

VLA Observations of Ammonia and Continuum in Regions with High-Velocity Gaseous Outflows. II. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & Lourdes Verdes-Montenegro.* 346, 756, 176-F8 (1989)

Monoceros R2: Interactions of a Molecular Cloud Core with a Stellar Wind? *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 349, 529, 21-G8 (1990)

VLA Observations of the Herbig-Haro 1-2 System. *Luis F. Rodríguez, Paul T. P. Ho, José M. Torrelles, Salvador Curiel, & Jorge Cantó.* 352, 645, 59-A11 (1990)

The Compact Molecular Core toward G34.3+0.2: VLA Observations in the (2,2) and (3,3) Lines of Ammonia. *Guido Garay & Luis F. Rodríguez.* 362, 191, 171-E5 (1990)

RODRÍGUEZ-ESPINOSA, J. M. Observations of Three BL Lacertae Objects: Constraints on Inhomogeneous Relativistically Beamed Jet Models. *D. M. Worrall, J. M. Rodríguez-Espinosa, W. Z.*

Wiśniewski, H. R. Miller, F. C. Bruhweiler, M. F. Aller, & H. D. Aller. 303, 589, 49-A2 (1986)
Extended Nonnuclear Infrared Emission from Seyfert Galaxies. *J. M. Rodríguez-Espinosa, Richard J. Rudy, & Barbara Jones.* 309, 76, 120-G7 (1986)
Star Formation in Seyfert Galaxies. *J. M. Rodríguez-Espinosa, Richard J. Rudy, & Barbara Jones.* 312, 555, 9-A1 (1987)
NGC 985: Extended Ionized Regions and the Far-Infrared Luminosity of a Ring-shaped Seyfert Galaxy. *J. M. Rodríguez-Espinosa & R. M. Stanga.* 365, 502, 214-C12 (1990)
RODRÍGUEZ-FRANCO, ARTURO. Large-Scale Interaction of the Outflow and Quiescent Gas in Orion. *Jesús Martín-Pintado, Arturo Rodríguez-Franco, & Rafael Bachiller.* 357, L49, 121-E3 (1990)
RODRIGUEZ-PACHECO, J. Quiet-Time Properties of Low-Energy (< 10 MeV per Nucleon) Interplanetary Ions during Solar Maximum and Solar Minimum. *I. G. Richardson, D. V. Reames, K.-P. Wenzel, & J. Rodriguez-Pacheco.* 363, L9, 187-B1 (1990)
RODRÍGUEZ-PASCUAL, P. Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)
ROEDER, ROBERT C. A Spherical Harmonic Analysis of the Positions of Quasars near M33. *Robert C. Roeder.* 335, 606, 179-B9 (1988)
ROELLIG, T. Submillimeter Diagnostics of the Response of the Solar Chromosphere to Compressional Waves. *C. Lindsey & T. Roellig.* 313, 877, 26-D1 (1987)
Far-Infrared Intensity Variations Caused by 5 Minute Oscillations. *C. Lindsey, G. Kopp, E. E. Becklin, T. Roellig, M. W. Werner, J. T. Jefferies, F. Q. Orrall, D. Braun, & D. L. Mickey.* 350, 475, 30-G1 (1990)
ROELLIG, T. L. Simultaneous Submillimeter and Infrared Observations of Flat-Spectrum Radio Sources. *T. L. Roellig, E. E. Becklin, C. D. Impey, & M. W. Werner.* 304, 646, 63-B4 (1986)
ROELLIG, T. P. L. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)
ROELLIG, THOMAS L. Submillimeter Observations of the Sun from the James Clerk Maxwell Telescope. *Charles A. Lindsey, Selwyn Yee, Thomas L. Roellig, Richard Hills, David Brock, William Duncan, Graeme Watt, Adrian Webster, & John T. Jefferies.* 353, L53, 73-C6 (1990)
ROELLIG, TOM. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)
RÖNNÄNG, B. The Distance to the Center of the Galaxy: H_2O Maser Proper Motions in Sagittarius B2(N). *M. J. Reid, M. H. Schneps, J. M. Moran, C. R. Gwinn, R. Genzel, D. Downes, & B. Rönnäng.* 330, 809, 101-D7 (1988)
RÖNNÄNG, B. O. Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)
ROESLER, F. L. Hα Scans of the Intergalactic H I Cloud in Leo. *R. J. Reynolds, K. Magee, F. L. Roesler, F. Scherb, & J. Harlander.* 309, L9, 125-D2 (1986)
RÖSSER, HERMANN-JOSEF. A Bright Optical Synchrotron Counterpart of the Western Hot Spot in Pictor A. *Hermann-Josef Rösser & Klaus Meisenheimer.* 314, 70, 28-G1 (1987)
ROGAVA, A. D. Fast Variation of Cygnus X-1 and Related Sources. *G. D. Chagelishvili, J. B. Lominadze, & A. D. Rogava.* 347, 1100, 197-C1 (1989)
ROGER, R. S. The H II Region Surrounding LkHα 101 and Small-Scale Structure in the Nearby Atomic Hydrogen. *P. E. Dewdney & R. S. Roger.* 307, 275, 98-A9 (1986)
Symmetry of the Radio Emission from Two High-Latitude Supernova Remnants, G296.5+10.0 and G324.7+14.6 (SN 1006). *R. S. Roger, D. K. Milne, M. J. Kesteven, K. J. Wellington, & R. F. Haynes.* 332, 940, 134-F7 (1988)
ROGER, ROBERT S. Comparative Morphological Analysis of Puppis A at Radio, Infrared, Optical, and X-Ray Wavelengths. *Richard G. Arendt, Eli Dwek, Robert Petre, John R. Dickel, Robert S. Roger, Douglas K. Milne, & Michael J. Kesteven.* 350, 266, 28-C6 (1990)
ROGERS, A. E. E. The Linear Polarization of 3C 345 at Milliarcsecond Resolution. *J. F. C. Wardle, D. H. Roberts, R. I. Potash, & A. E. E. Rogers.* 304, L1, 61-A4 (1986)
VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)
VLBI Observations of 23 Hot Spots in the Starburst Galaxy M82. *N. Bartel, M. I. Ratner, A. E. E. Rogers, I. I. Shapiro, R. J. Bonometti, N. L. Cohen, M. V. Gorenstein, J. M. Marcaide, & R. A. Preston.* 323, 505, 160-B3 (1987)
Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)
VLBI Observations of the Gravitational Lens System 0957+561: Structure and Relative Magnification of the A and B Images. *M. V. Gorenstein, N. L. Cohen, I. I. Shapiro, A. E. E. Rogers, R. J. Bonometti, E. E. Falco, N. Bartel, & J. M. Marcaide.* 334, 42, 154-E1 (1988)
VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)
VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)
VLBI and Polarimetric Observations of the SiO Masers in R Cassiopeiae. *G. C. McIntosh, C. R. Predmore, J. M. Moran, L. J. Greenhill, A. E. E. Rogers, & R. Barvainis.* 337, 934, 30-D9 (1989)
15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)
223 GHz VLBI Observations of 3C 273. *S. Padin, D. P. Woody, M. W. Hodges, A. E. E. Rogers, D. T. Emerson, P. R. Jewell, J. Lamb, A. Perfetto, & M. C. H. Wright.* 360, L11, 149-C2 (1990)
Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)
ROGERS, C. Half-Range Moment Methods for Radiative Transfer in Spherical Geometry. IV. Multifrequency Problems with Radiative Equilibrium. *C. Rogers & P. G. Martin.* 311, 800, 156-E5 (1986)
Thermal Emission from Bok Globules. *Man Hoi Lee & C. Rogers.* 317, 197, 66-B8 (1987)

Carbon Grains in the Envelope of IRC +10216. *P. G. Martin & C. Rogers.* 322, 374, 142-A1 (1987)

ROGERS, F. J. Occupation Numbers for Reacting Plasmas: The Role of the Planck-Larkin Partition Function. *F. J. Rogers.* 310, 723, 141-G9 (1986)

Reexamination of the Metal Contribution to Astrophysical Opacity. *C. A. Iglesias, F. J. Rogers, & B. G. Wilson.* 322, L45, 145-D2 (1987)

A Distribution Function Approach for Effective Occupation Numbers and the Equation of State of Hydrogen Plasmas. *F. J. Rogers.* 352, 689, 59-E5 (1990)

Opacities for Classical Cepheid Models. *C. A. Iglesias, F. J. Rogers, & B. G. Wilson.* 360, 221, 147-F10 (1990)

ROGERS, R. D. Determination of Photospheric Helium Abundances for the Hot White Dwarfs LB 1663 and CD −38°10980 from *EXOSAT* Soft X-Ray Photometry. *F. B. S. Paerels, J. Heise, S. M. Kahn, & R. D. Rogers.* 322, 315, 141-C6 (1987)

ROGERSON, JOHN B., JR. The *Copernicus* Ultraviolet Spectral Atlas of Sirius. *John B. Rogerson, Jr.* 63, 369, 6-A13 (1987)

The *Copernicus* Ultraviolet Spectral Atlas of Vega. *John B. Rogerson, Jr.* 71, 1011, 50-B1 (1989)

ROKOSZ, RICHARD. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

ROLFS, C. Hydrogen Burning of ^{23}Na in the NeNa Cycle. *J. Görres, M. Wiescher, & C. Rolfs.* 343, 365, 122-F2 (1989)

ROMAINE, S. *Einstein* X-Ray Observations of M101. *G. Trinchieri, G. Fabbiano, & S. Romaine.* 356, 110, 100-D7 (1990)

ROMANELLI, PAUL. Big Bang Nucleosynthesis: Predictions and Uncertainties. *Lawrence M. Krauss & Paul Romanelli.* 358, 47, 122-F1 (1990)

ROMANI, R. W. Evidence for Geodetic Spin Precession in the Binary Pulsar PSR 1913+16. *J. M. Weisberg, R. W. Romani, & J. H. Taylor.* 347, 1030, 196-C13 (1989)

ROMANI, ROGER W. Flicker of Extragalactic Radio Sources and Refractive Interstellar Scintillation. *Roger Blandford, Ramesh Narayan, & Roger W. Romani.* 301, L53, 27-C3 (1986)

Model Atmospheres for Cooling Neutron Stars. *Roger W. Romani.* 313, 718, 24-E13 (1987)

A Large Bubble around the Crab Nebula. *Roger W. Romani, William T. Reach, Bon-Chul Koo, & Carl Heiles.* 349, L51, 24-C5 (1990)

The Pulsar Content of Globular Clusters. *Shrinivas R. Kulkarni, Ramesh Narayan, & Roger W. Romani.* 356, 174, 101-C1 (1990)

Binary Periods of Cluster Pulsars. *Roger W. Romani.* 357, 493, 118-F5 (1990)

ROMANIK, CARL J. The Dielectronic Recombination Rate Coefficients for Ions in the He, Li, Be, and Ne Isoelectronic Sequences. *Carl J. Romanik.* 330, 1022, 103-G1 (1988)

ROMANISHIN, W. Optical and Infrared Studies of Galaxy Clusters with Cooling Accretion Flows. *W. Romanishin.* 301, 675, 23-A8 (1986)

H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

On the Nature of QSO Host Galaxies. *Eric P. Smith, T. M. Heckman, G. D. Bothun, W. Romanishin, & B. Balick.* 306, 64, 81-G6 (1986)

Direct Imaging of the Extremely Large Host Galaxy and Gas Cloud Surrounding the Quasar 3C 275.1. *Paul Hintzen & W. Romanishin.* 311, L1, 152-A4 (1986)

Imaging Redshift Estimates for Two BL Lacertae Objects. *W. Romanishin.* 320, 586, 116-A14 (1987)

An Imaging Study of NGC 1275 and PKS 0745−191: Vigorous Star Formation in Cooling Flow Cluster Dominant Galaxies. *W. Romanishin.* 323, L113, 164-B9 (1987)

A 2 Kiloparsec Accretion Disk (?) inside a 17 Kiloparsec Hα Bar in the Cooling Flow Cluster 2S 0335+096. *W. Romanishin & Paul Hintzen.* 324, L17, 9-B4 (1988)

Peculiar Velocities of cD Galaxies: MX Spectroscopy of Abell 1795. *John M. Hill, Paul Hintzen, W. R. Oegerle, W. Romanishin, M. P. Lesser, J. D. Eisenhamer, & D. J. Batuski.* 332, L23, 129-C13 (1988)

A Spiral Galaxy at $z = 0.366$ Which Overlaps the Image of the Quasar 4C 39.47. *Paul Hintzen, W. Romanishin, Craig Foltz, & William Keel.* 337, L5, 25-A10 (1989)

The Structure of Host Galaxies of Radio-loud Quasars and Possible Triggering Mechanisms for Quasar Activity. *W. Romanishin & Paul Hintzen.* 341, 41, 84-E1 (1989)

ROMNEY, J. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

ROMNEY, J. D. The Structure of the Interstellar Medium at the 25 AU Scale. *P. J. Diamond, W. M. Goss, J. D. Romney, R. S. Booth, P. M. W. Kalberla, & U. Mebold.* 347, 302, 185-G3 (1989)

ROMNEY, JONATHAN D. Multiepoch VLBI Observations of 4C 39.25: Superluminal Motion and Stationary Structure. *David B. Shaffer, Alan P. Marscher, Jon Marcaide, & Jonathan D. Romney.* 314, L1, 33-B4 (1987)

18 Centimeter VLBI Observations of the Quasar NRAO 140 during and after a Low-Frequency Outburst. *Alan P. Marscher, John J. Broderick, Lucia Padrielli, Norbert Bartel, & Jonathan D. Romney.* 319, 456, 98-B8 (1987)

The Inner Beams of SS 433. *Jonathan D. Romney, Richard T. Schilizzi, István Fejes, & Ralph E. Spencer.* 321, 822, 133-E3 (1987)

RONAN, ROBERT S. Solar Coronal Bright Points Observed with the VLA. *Shadia R. Habbal, Robert S. Ronan, George L. Withbroe, Raghunath K. Shevgaonkar, & Mukul R. Kundu.* 306, 740, 92-E12 (1986)

ROOD, HERBERT J. Neutral Hydrogen in Compact Groups of Galaxies. *B. A. Williams & Herbert J. Rood.* 63, 265, 4-C8 (1987)

A Compilation of Redshifts and Velocity Dispersions for Abell Clusters. *Mitchell F. Struble & Herbert J. Rood.* 63, 543, 9-C7 (1987)

A Catalog of Morphological Properties of the 2712 Abell Clusters. *Mitchell F. Struble & Herbert J. Rood.* 63, 555, 9-D4 (1987)

Results from a Visual Survey of All 2712 Abell Clusters. *Mitchell F. Struble & Herbert J. Rood.* 323, 468, 159-F4 (1987)

The Nature of Compact Groups of Galaxies. *Paul Hickson & Herbert J. Rood.* 331, L69, 121-B12 (1988)

The Neighborhood of a Compact Group of Galaxies. *Herbert J. Rood & B. A. Williams.* 339, 772, 61-D1 (1989)

ROOD, R. T. Formaldehyde Observations of Giant Molecular Clouds. *E. James Wadiak, R. T. Rood, & T. L. Wilson.* 324, 931, 13-F6 (1988)

ROOD, ROBERT T. Horizontal-Branch Stars in NGC 6752 with Strong Helium Lines. *Deborah A. Crocker, Robert T. Rood, & Robert W. O'Connell.* 309, L23, 125-E1 (1986)

Measurements of the ^{3}He Abundance in the Interstellar Medium. *T. M. Bania, Robert T. Rood, & T. L. Wilson.* 323, 30, 153-D3 (1987)

Multiple Populations on the Horizontal Branch. I. Observations in the ($\log g$, $\log T_{\rm eff}$)–Diagram. *Deborah A. Crocker, Robert T. Rood, & Robert W. O'Connell.* 332, 236, 125-F7 (1988)

Observations of the ^{13}C Isomers of Cyanoacetylene: Implications for Carbon Isotope Studies in the Milky Way. *Jeffrey G. Mangum, Robert T. Rood, E. James Wadiak, & T. L. Wilson.* 334, 182, 156-C9 (1988)

ROOS, CHARLES E. Detecting Thermal Neutrinos from Supernovae with DUMAND. *Carlton Pryor, Charles E. Roos, & Medford S. Webster.* 329, 335, 78-G1 (1988)

ROOS, NICO. Jet Precession in Active Galaxies High-Resolution Emission-Line Imaging of Seyfert Galaxies. I. Observations. *Nico Roos, Christopher A. Haniff, Andrew S. Wilson, & Martin J. Ward.* 334, 104, 155-D1 (1988)

ROQUES, S. High-Resolution Imaging of the Double QSO 2345+007: Evidence for Subcomponents. *J.-L. Nieto, S. Roques, A. Llebaria, Ch. Vanderriest, G. Lelièvre, S. di Serego Alighieri, F. D. Macchetto, & M. A. C. Perryman.* 325, 644, 27-E8 (1988)

ROSA, MICHAEL. On the Chemical Homogeneity of the 30 Doradus H II Region and a Local Enrichment by Wolf-Rayet Stars. *Michael Rosa & John S. Mathis.* 317, 163, 65-F11 (1987)

ROSE, W. K. Radiation from Relativistic Beams Interacting with Interstellar Gas. *W. K. Rose, J. H. Beall, J. Guillory, & S. Kainer.*

314, 95, 29-A12 (1987)
ROSE, WILLIAM K. Infrared Continuum Radiation from Red Giants. *William K. Rose.* 312, 284, 4-A9 (1987)
Magnetic Fields in Extragalactic Jets. *William K. Rose.* 313, 146, 16-E10 (1987)
Magnetic Fields in Extragalactic Jets. II. Specific Models and Radiative Processes. *William K. Rose.* 337, 91, 18-B12 (1989)
ROSEN, ALEXANDER. Beams Crossing a Galactic Halo–Intergalactic Medium Interface and the Size of Extragalactic Radio Sources. *Alexander Rosen & Paul J. Wiita.* 330, 16, 90-B11 (1988)
Expanding Hydrodynamical Jets Crossing a Galactic Halo/Intergalactic Medium Interface. *Paul J. Wiita, Alexander Rosen, & Michael L. Norman.* 350, 545, 33-A7 (1990)
BL Lacertae Variability and Superluminal Motion via a Helical Filament/Shock Interface. *Alexander Rosen.* 359, 296, 139-F8 (1990)
Effect of an Intergalactic Medium on the Average Sizes of Extragalactic Jets. *Alexander Rosen.* 360, 30, 145-D6 (1990)
ROSEN, NATHAN. Mass Accretion on a Collapsed Star. *Amos Harpaz & Nathan Rosen.* 312, 646, 10-A7 (1987)
A Singularity-free Cosmological Model in General Relativity. *Mark Israelit & Nathan Rosen.* 342, 627, 110-D1 (1989)
Stability of a Collapsed Star in Bimetric General Relativity. *Amos Harpaz & Nathan Rosen.* 355, 210, 89-E1 (1990)
ROSEN, PAUL A. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2. John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)
ROSENBAUER, HELMUT. Energetic Ion Fluxes in the Inner Coma of Comet P/Halley. *Aharon Eviatar, Raymond Goldstein, David T. Young, Hans Balsiger, Helmut Rosenbauer, & Stephen Fuselier.* 339, 545, 56-E13 (1989)
ROSENBLATT, EDWARD I. Pregalactic Formation of Globular Clusters in Cold Dark Matter. *Edward I. Rosenblatt, S. M. Faber, & George R. Blumenthal.* 330, 191, 92-B2 (1988)
Emission-Line Variations and Broad-Line Region Kinematics of NGC 5548. *Edward I. Rosenblatt & M. A. Malkan.* 350, 132, 26-F1 (1990)
ROSENTHAL, E. The Infrared Coronal Lines of Recent Novae. *Matthew A. Greenhouse, G. L. Grasdalen, C. E. Woodward, J. Benson, R. D. Gehrz, E. Rosenthal, & M. F. Skrutskie.* 352, 307, 53-F1 (1990)
ROSENWALD, R. D. The Radial Dependence of the $P_2(\cos\theta)$ Component and the Scale Height of the $P_4(\cos\theta)$ Component of the Internal Rotation of the Sun. *H. A. Hill, G. F. Rabaey, D. S. Yakowitz, & R. D. Rosenwald.* 310, 444, 136-G1 (1986)
ROSENZWEIG, PATRICIA. The Extinction Law in the Open Cluster NGC 457 and the Intrinsic Energy Distribution of ϕ Cassiopeiae (F0 Ia). *Patricia Rosenzweig & Nancy D. Morrison.* 306, 522, 90-B9 (1986)
Galactic Evolution with Self-regulated Star Formation: Stability of a Simple One-Zone Model. *Antonio Parravano, Patricia Rosenzweig, & Manuel Terán.* 356, 100, 100-C9 (1990)
ROSINO, LEONIDA. Distances of the Virgo and Coma Clusters of Galaxies through Novae and Supernovae. *Massimo Capaccioli, Enrico Cappellaro, Massimo Della Valle, Mauro D'Onofrio, Leonida Rosino, & Massimo Turatto.* 350, 110, 26-D1 (1990)
Distance of the Large Magellanic Cloud through the Maximum Magnitude versus Rate of Decline Relation for Novae. *Massimo Capaccioli, Massimo Della Valle, Mauro D'Onofrio, & Leonida Rosino.* 360, 63, 145-G4 (1990)
ROSNER, R. X-Ray Spectra and the Rotation-Activity Connection of RS Canum Venaticorum Binaries. *P. Majer, J. H. M. M. Schmitt, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 300, 360, 5-A5 (1986)
On Wind-Type Flows in Astrophysical Jets. II. Propagation outside the Nucleus and the Case of M87. *A. Ferrari, E. Trussoni, R. Rosner, & K. Tsinganos.* 300, 577, 9-D10 (1986)
On Magnetic Field Stochasticity and Nonthermal Line Broadening in Solar Flares. *E. Antonucci, R. Rosner, & K. Tsinganos.* 301, 975, 26-D4 (1986)
The Equilibrium Structure of Thin Magnetic Flux Tubes. II. *W. Kalkofen, R. Rosner, A. Ferrari, & S. Massaglia.* 304, 519, 59-E10 (1986)
Intermittent Stellar Wind Acceleration and the Long-Term Activity of Population I Binary Systems Containing an X-Ray Pulsar. *L. Stella, N. E. White, & R. Rosner.* 308, 669, 116-C9 (1986)
The Damping of the Alvén Mode in Stochastic Astrophysical Fluids. *Y. Q. Lou & R. Rosner.* 309, 874, 130-G5 (1986)
On Strategies for Inverting Remote Sensing Data. *W. Jeffrey & R. Rosner.* 310, 463, 137-B3 (1986)
Optimization Algorithms: Simulated Annealing and Neural Network Processing. *W. Jeffrey & R. Rosner.* 310, 473, 137-B13 (1986)
Current-driven Magnetohydrodynamic Thermal Instabilities in Sheared Fields. *G. Bodo, A. Ferrari, S. Massaglia, & R. Rosner.* 313, 432, 19-F10 (1987)
Variability Analysis in Low Count Rate Sources. *A. Collura, A. Maggio, S. Sciortino, S. Serio, G. S. Vaiana, & R. Rosner.* 315, 340, 43-E11 (1987)
A Computational Code for Two-dimensional Unsteady Magneto-hydrodynamics by the Method of Characteristics. *Y. Q. Lou, R. Rosner, & P. Ulmschneider.* 315, 349, 43-F6 (1987)
On the Generation of Magnetohydrodynamic Waves in a Stratified and Magnetized Fluid. I. Vertical Propagation. *Z. E. Musielak & R. Rosner.* 315, 371, 44-A5 (1987)
Einstein Observatory Survey of X-Ray Emission from Solar-Type Stars: The Late F and G Dwarf Stars. *A. Maggio, S. Sciortino, G. S. Vaiana, P. Majer, J. Bookbinder, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 315, 687, 48-B8 (1987)
On the Thermal Instability of Galactic and Cluster Halos. *A. Malagoli, R. Rosner, & G. Bodo.* 319, 632, 101-G8 (1987)
Simulations of the Ca XIX Spectral Emission from a Flaring Solar Cromal Loop. I. Thermal Case. *E. Antonucci, M. A. Dodero, G. Peres, S. Serio, & R. Rosner.* 322, 522, 143-F1 (1987)
The Stellar Composition of X-Ray Surveys from the *Einstein Observatory. F. Favata, R. Rosner, S. Sciortino, & G. S. Vaiana.* 324, 1010, 14-E13 (1988)
On Wind-Type Flows in Astrophysical Jets. III. Temporal Evolution of Perturbations and the Formation of Shocks. *E. Trussoni, A. Ferrari, R. Rosner, & K. Tsinganos.* 325, 417, 23-F11 (1988)
The *Einstein Observatory* Survey of Stars in the Hyades Cluster Region. *G. Micela, S. Sciortino, G. S. Vaiana, J. H. M. M. Schmitt, R. A. Stern, F. R. Harnden, Jr., & R. Rosner.* 325, 798, 29-C8 (1988)
Hydrodynamic Modeling of an X-Ray Flare on Proxima Centauri Observed by the *Einstein* Telescope. *F. Reale, G. Peres, S. Serio, R. Rosner, & J. H. M. M. Schmitt.* 328, 256, 64-G1 (1988)
On the Generation of Magnetohydrodynamic Waves in a Stratified and Magnetized Fluid. II. Magnetohydromagnetic Energy Fluxes for Late-Type Stars. *Z. E. Musielak & R. Rosner.* 329, 376, 79-C1 (1988)
The Equilibrium Structure of a Thin Magnetic Flux Tube. III. The Effects of Molecular CO Absorption. *S. Massaglia, G. Bodo, W. Kalkofen, & R. Rosner.* 333, 925, 150-D9 (1988)
On the Generation of Flux Tube Waves in Stellar Convection Zones. I. Longitudinal Tube Waves Driven by External Turbulence. *Z. E. Musielak, R. Rosner, & P. Ulmschneider.* 337, 470, 23-D1 (1989)
Variability of X-Ray Emission from OB Stars. *A. Collura, S. Sciortino, S. Serio, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 338, 296, 36-E7 (1989)
Nonlinear Parker Instability of Isolated Magnetic Flux in a Plasma. *K. Shibata, T. Tajima, R. Matsumoto, T. Horiuchi, T. Hanawa, R. Rosner, & Y. Uchida.* 338, 471, 38-F6 (1989)
On Magnetic Fields, Heating and Thermal Conduction in Halos, and the Suppression of Cooling Flows. *R. Rosner & W. H. Tucker.* 338, 761, 43-C6 (1989)
On the Stability of Magnetized Rotating Jets: The Axisymmetric Case. *G. Bodo, R. Rosner, A. Ferrari, & E. Knobloch.* 341, 631, 93-A7 (1989)
Einstein Observatory Magnitude-limited X-Ray Survey of Late-Type Giant and Supergiant Stars. *A. Maggio, G. S. Vaiana, B. M. Haisch, R. A. Stern, J. Bookbinder, F. R. Harnden, Jr., & R. Rosner.* 348, 253, 4-B3 (1990)
X-Ray Studies of Coeval Star Samples. II. The Pleiades Cluster as Observed with the *Einstein Observatory. G. Micela, S. Sciortino,*

G. S. Vaiana, F. R. Harnden, Jr., R. Rosner, & J. H. M. M. Schmitt. 348, 557, 9-E6 (1990)

X-Ray Studies of Coeval Star Samples. III. X-Ray Emission in the Ursa Major Stream. *J. H. M. M. Schmitt, G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 351, 492, 46-B11 (1990)

Relationship between Optical and X-Ray Properties of O-Type Stars Surveyed with the *Einstein Observatory*. *S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., M. Ramella, C. Morossi, R. Rosner, & J. H. M. M. Schmitt.* 361, 621, 165-F11 (1990)

Einstein Observatory Coronal Temperatures of Late-Type Stars. *J. H. M. M. Schmitt, A. Collura, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 365, 704, 217-A9 (1990)

ROSNER, ROBERT. Winds from Hot Accretion Disks. *Fumio Takahara, Robert Rosner, & Masaaki Kusunose.* 346, 122, 167-E6 (1989)

ROSQUIST, KJELL. Trigonometric Parallaxes of Distant Objects: What They Could Tell About the Universe. *Kjell Rosquist.* 331, 648, 116-A1 (1988)

ROSS, RANDY R. Radiative Transfer in Circumstellar 1612 MHz OH Masers. *Charles Alcock & Randy R. Ross.* 305, 837, 78-B2 (1986)

Saturation and Beaming in Astrophysical Masers. III. Asymmetrically Pumped Masers. *Charles Alcock & Randy R. Ross.* 306, 649, 91-F1 (1986)

Physical Conditions near Red Giants and Supergiant Stars: An Interpretation of SiO VLBI Maps. *Charles Alcock & Randy R. Ross.* 310, 835, 143-B1 (1986)

X-Rays from Supernova 1987A. *Yueming Xu, Peter Sutherland, Richard McCray, & Randy R. Ross.* 327, 197, 49-B5 (1988)

ROSSANO, GEORGE S. Airborne Spectrophotometry of Eta Carinae from 4.5 to 7.5 Microns and a Model for Source Morphology. *Ray W. Russell, David K. Lynch, John A. Hackwell, Richard J. Rudy, George S. Rossano, & M. W. Castelaz.* 321, 937, 134-F12 (1987)

He I λ10830 Observations of Seyfert 2 Galaxies. *Richard J. Rudy, Ross D. Cohen, George S. Rossano, R. C. Puetter, & Scott C. Chapman.* 341, 120, 85-D8 (1989)

Detection of the O I 11287 Å Line in the Seyfert 1 Galaxy I Zw 1. *Richard J. Rudy, George S. Rossano, & R. C. Puetter.* 342, 235, 103-F14 (1989)

The Near-Infrared Oxygen I Lines of the Planetary Nebula IC 4997. *Richard J. Rudy, George S. Rossano, & R. C. Puetter.* 346, 799, 177-C6 (1989)

Optical and Infrared Spectrophotometry of the Symbiotic System V1016 Cygni. *Richard J. Rudy, Ross D. Cohen, George S. Rossano, & R. C. Puetter.* 362, 346, 173-D7 (1990)

ROSSI, L. Millimeter Observations of the Magellanic Clouds. *P. Andreani, C. Ceccarelli, G. Dall'Oglio, L. Martinis, L. Piccirillo, L. Pizzo, L. Rossi, & C. Venturino.* 348, 467, 8-D3 (1990)

ROSSI, LUCIO. Intrinsic Ultraviolet (912–3200 Å) Energy Distribution of OB Stars. *Renata Longo, Roberto Stalio, Ronald S. Polidan, & Lucio Rossi.* 339, 474, 55-G4 (1989)

The Ultraviolet Spectrum of η Carinae. *Roberto Viotti, Lucio Rossi, Angelo Cassatella, Aldo Altamore, & Giovanni Battista Baratta.* 71, 983, 49-F5 (1989)

ROSSOW, WILLIAM B. The Role of Aqueous Chemistry in Determining the Composition and Cloud Structure of the Upper Troposphere of Uranus. *Barbara E. Carlson, Michael J. Prather, & William B. Rossow.* 321, L97, 130-B3 (1987)

Cloud Chemistry on Jupiter. *Barbara E. Carlson, Michael J. Prather, & William B. Rossow.* 322, 559, 144-A11 (1987)

ROTH, DUANE C. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

ROTH, KATHERINE C. A Precise CN Measurement of the Cosmic Microwave Background Temperature at 1.32 Millimeters. *David M. Meyer, Katherine C. Roth, & Isabel Hawkins.* 343, L1, 125-B6 (1989)

Observations of the (1, 0) Vibrational Band of Interstellar CN toward Zeta Ophiuchi. *David M. Meyer & Katherine C. Roth.* 349, 91, 15-B1 (1990)

Observations of Nickel, Chromium, and Zinc in QSO Absorption-Line Systems. *David M. Meyer & Katherine C. Roth.* 363, 57, 182-G10 (1990)

ROTH, M. X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, N. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

Large Proper Motions in the Remarkable Triple Radio Source in Serpens. *L. F. Rodríguez, S. Curiel, J. M. Moran, I. F. Mirabel, M. Roth, & G. Garay.* 346, L35, 181-D9 (1989)

Detection of Synchrotron Emission from a Unique HH–like Object in Orion. *F. Yusef-Zadeh, T. J. Cornwell, Bo Reipurth, & M. Roth.* 348, L61, 13-C1 (1990)

ROTHENFLUG, R. *EXOSAT* Observations of the Kepler Supernova Remnant. *A. Smith, A. Peacock, M. Arnaud, J. Ballet, R. Rothenflug, & R. Rocchia.* 347, 925, 195-A9 (1989)

ROTHERMEL, H. Observations of CO Isotopic Emission and the Far-Infrared Continuum of Centaurus A. *A. Eckart, M. Cameron, H. Rothermel, W. Wild, H. Zinnecker, G. Rydbeck, M. Olberg, & T. Wiklind.* 363, 451, 189-F11 (1990)

Molecular Absorption Lines toward the Nucleus of Centaurus A. *A. Eckart, M. Cameron, R. Genzel, J. M. Jackson, H. Rothermel, J. Stutzki, G. Rydbeck, & T. Wiklind.* 365, 522, 214-F7 (1990)

ROTHSCHILD, R. E. *HEAO 1* Hard X-Ray Observations of Three Abell Clusters of Galaxies. *Y. Rephaeli, D. E. Gruber, & R. E. Rothschild.* 320, 139, 109-E5 (1987)

Upper Limits from Hard X-Ray Observations of Five BL Lacertae Objects. *M. Bezler, D. E. Gruber, & R. E. Rothschild.* 334, 995, 167-E1 (1988)

Temporal Behavior of Hercules X-1: The Long-Term Variability of Its Pulse Profile and the 35 Day X-Ray Intensity Modulation. *Y. Soong, D. E. Gruber, L. E. Peterson, & R. E. Rothschild.* 348, 634, 10-E3 (1990)

Spectral Behavior of Hercules X-1: Its Long-Term Variability and Pulse Phase Spectroscopy. *Y. Soong, D. E. Gruber, L. E. Peterson, & R. E. Rothschild.* 348, 641, 10-E11 (1990)

ROTHSCHILD, RICHARD E. Two Binary Cycles of GX 301−2. *Richard E. Rothschild & Yang Soong.* 315, 154, 41-F6 (1987)

A Rapid Change of the Hercules X-1 Pulse Profile and High-State Duration. *Yang Soong, Duane E. Gruber, & Richard E. Rothschild.* 319, L77, 107-E3 (1987)

ROTS, ARNOLD H. A Comparison of Spiral Tracers in M81. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 345, 674, 159-B1 (1989)

A Comparison of Spiral Tracers in M81: Erratum. *Michele Kaufman, Frank N. Bash, Butler Hine, Arnold H. Rots, Debra M. Elmegreen, & Paul W. Hodge.* 354, 387, 79-A10 (1990) (Orig. paper in 345, 674, 159-B1 (1989))

ROTTMAN, G. J. The Solar Coronal Density Irregularity $\overline{n^2}/(\overline{n})^2$ Derived from Simultaneous Measurements of the EUV and K-coronal Brightness. *F. Q. Orrall, G. J. Rottman, R. R. Fisher, & R. H. Munro.* 349, 656, 23-D4 (1990)

ROTTMAN, GARY J. Line Broadening of Mg X λλ609 and 625 Coronal Emission Lines Observed above the Solar Limb. *Donald M. Hassler, Gary J. Rottman, Edward C. Shoub, & Thomas E. Holzer.* 348, L77, 13-D6 (1990)

The Systematic Radial Downflow in the Transition Region of the Quiet Sun from Limb-to-Limb Observations of the C IV Resonance Lines. *Gary J. Rottman, Donald M. Hassler, Michael D. Jones, & Frank Q. Orrall.* 358, 693, 132-B10 (1990)

ROULEAU, FRANÇOIS. Collapse and Fragmentation of Isothermal and Polytropic Cylindrical Clouds. *François Rouleau & Pierre Bastien.* 355, 172, 89-B1 (1990)

ROUSSEL-DUPRÉ, D. Observations of the X-Ray Transient 4U 0115+63. *L. Whitlock, D. Roussel-Dupré, & W. Priedhorsky.* 338, 381, 37-F3 (1989)

Observations of the X-Ray Transient 4U 0115+63: Erratum. *L. Whitlock, D. Roussel-Dupré, & W. Priedhorsky.* 344, 1051, 147-C1 (1989) (Orig. paper in 338, 381, 37-F3 (1989))

ROUSSEL-DUPRÉ, DIANE. Discovery of a Bright X-Ray Nova, GS 2000+25. *Hiroshi Tsunemi, Shunji Kitamoto, Sadanori Okamura, & Diane Roussel-Dupré.* 337, L81, 32-C1 (1989)

ROUTLEDGE, D. VRO 42.05.01: A Supernova Remnant Reenergizing an Interstellar Cavity. *S. Pineault, T. L. Landecker, & D. Routledge.* 315, 580, 47-A10 (1987)

Discovery of a Shell-Type Supernova Remnant in the Direction of the Young Pulsar PSR 1930+22. *D. Routledge & J. F. Vaneldik.* 326, 751, 41-G7 (1988)

ROVIRA, M. Impact Line Linear Polarization as a Diagnostic of 100 keV Proton Acceleration in Solar Flares. *J. C. Hénoux, G. Chambe, D. Smith, D. Tamres, N. Feautrier, M. Rovira, & S. Sahal-Bréchot.* 73, 303, 21-G11 (1990)

ROVIRA, MARTA. The Extended Atmosphere of λ Pavonis at the Time of the Emergence of H-Emissions from Minimum Intensity. *Jorge Sahade, Marta Rovira, Adela E. Ringuelet, Yoji Kondo, & Lydia Cidale.* 327, 335, 50-F1 (1988)

ROVIRA, MARTA G. The Observed Characteristics of Flare Energy Release. I. Magnetic Structure at the Energy Release Site. *Marcos E. Machado, Ronald L. Moore, Ana M. Hernandez, Marta G. Rovira, Mona J. Hagyard, & Jesse B. Smith, Jr.* 326, 425, 37-A1 (1988)

ROWAN, W. L. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2-2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

ROWAN-ROBINSON, M. The Dipole Anisotropies of the *IRAS* Galaxies and the Microwave Background Radiation. *A. Yahil, D. Walker, & M. Rowan-Robinson.* 301, L1, 20-A4 (1986)

IRAS Observations of the Nuclear Bulge of M31. *B. T. Soifer, W. L. Rice, J. R. Mould, F. C. Gillett, M. Rowan-Robinson, & H. J. Habing.* 304, 651, 63-B9 (1986)

A Model for the Emission from the Bulge of Our Galaxy. *M. Rowan-Robinson & T. Chester.* 313, 413, 19-E4 (1987)

Galaxy Evolution and Large-Scale Structure in the Far-Infrared. II. The *IRAS* Faint Source Survey. *Carol J. Lonsdale, Perry B. Hacking, T. P. Conrow, & M. Rowan-Robinson.* 358, 60, 122-G1 (1990)

ROWE, HARRISON E. Molecules in Galaxies. III. The Virgo Cluster. *Antony A. Stark, G. R. Knapp, John Bally, Robert W. Wilson, Arno A. Penzias, & Harrison E. Rowe.* 310, 660, 141-B8 (1986)

ROWLANDS, N. Electron Temperatures in the High-Excitation Zones of Planetary Nebulae. *N. Rowlands, J. R. Houck, T. Herter, G. E. Gull, & M. F. Skrutskie.* 341, 901, 96-D1 (1989)

Si II Mapping of the Neutral Gas Ring in the Galactic Center: Evidence for Dust Destruction. *T. Herter, G. E. Gull, S. T. Megeath, N. Rowlands, & J. R. Houck.* 343, 696, 127-G1 (1989)

ROWLEY, GREGG. Box-shaped Galactic Bulges. I. Equilibrium Models. *Gregg Rowley.* 331, 124, 107-D2 (1988)

ROY, H. P. Magnetic Quadrupole Transition Rates and Rydberg States of the Magnesium Isoelectronic Sequence. *D. Ray, P. K. Mukherjee, & H. P. Roy.* 346, 1045, 180-B1 (1989)

ROY, JEAN-RENÉ. Hα Velocity Widths in Giant Extragalactic H II Regions. *Jean-René Roy, Robin Arsenault, & Gilles Joncas.* 300, 624, 10-A2 (1986)

The Hα Velocity Widths of Giant H II Regions as Distance Indicators. *Jean-René Roy & Robin Arsenault.* 302, 579, 37-A1 (1986)

The Hα Velocity Field of the Omega Nebula (M17). *Gilles Joncas & Jean-René Roy.* 307, 649, 104-A12 (1986)

Nitrogen Abundances in the Amorphous Galaxy NGC 5253. *Jeremy R. Walsh & Jean-René Roy.* 319, L57, 107-C9 (1987)

The Abundance Gradient across the Galaxy NGC 2997. *J. R. Walsh & Jean-René Roy.* 341, 722, 94-C5 (1989)

The Optical Jet of the Galaxy NGC 4258: Interaction with the Interstellar Medium. *Pierre Martin, Jean-René Roy, Louis Noreau, & K. Y. Lo.* 345, 707, 159-E1 (1989)

ROY CHOUDHURY, S. On the Kelvin-Helmholtz Instabilities of High-Velocity Magnetized Shear Layers. *S. Roy Choudhury & R. V. E. Lovelace.* 302, 188, 30-A6 (1986)

ROZENBUSH, VERA K. Some Results of the Narrow-Band Photometry of Comet Halley (1986 III). *Klim I. Churyumov, Vera K. Rozenbush, Farid K. Rspayev, & Dmitry I. Gorodetsky.* 356, 687, 108-F13 (1990)

ROZSNYAI, BALAZS F. Photorecombination Rates of Hydrogenic and Nonhydrogenic States. *Balazs F. Rozsnyai & Verne L. Jacobs.* 327, 485, 52-D1 (1988)

Bracketing the Astrophysical Opacities for the King IVa Mixture. *Balazs F. Rozsnyai.* 341, 414, 89-A3 (1989)

RÓŻYCZKA, M. On the Origin of the Orion and Monoceros Molecular Cloud Complexes. *J. Franco, G. Tenorio-Tagle, P. Bodenheimer, M. Różyczka, & I. F. Mirabel.* 333, 826, 149-D1 (1988)

RÓŻYCZKA, MICHAŁ. The Formation Phase of the Solar Nebula. *Peter Bodenheimer, Harold W. Yorke, Michał Różyczka, & Joel E. Tohline.* 355, 651, 96-F4 (1990)

RSPAYEV, FARID K. Some Results of the Narrow-Band Photometry of Comet Halley (1986 III). *Klim I. Churyumov, Vera K. Rozenbush, Farid K. Rspayev, & Dmitry I. Gorodetsky.* 356, 687, 108-F13 (1990)

RUBIERA, MYRA E. A Catalog of Observations for Stellar Masers. *Priscilla J. Benson, Irene R. Little-Marenin, Tara C. Woods, Joanne M. Attridge, Kristin A. Blais, Dana B. Rudolph, Myra E. Rubiera, & Heidi L. Keefe.* 74, 911, 44-B7 (1990)

RUBIN, R. H. The Ionization Structure of the Orion Nebula: Infrared Line Observations and Models. *J. P. Simpson, R. H. Rubin, E. F. Erickson, & M. R. Haas.* 311, 895, 157-E7 (1986)

Determination of N/O from Far-Infrared Line Observations of Galactic H II Regions. *R. H. Rubin, J. P. Simpson, E. F. Erickson, & M. R. Haas.* 327, 377, 51-B4 (1988)

The Effect of Density Variations on Elemental Abundance Ratios in Gaseous Nebulae. *R. H. Rubin.* 69, 897, 14-F7 (1989)

IRAS Low-Resolution Spectral Observations of H II Regions. *J. P. Simpson & R. H. Rubin.* 354, 165, 76-A9 (1990)

RUBIN, ROBERT H. Noncollisional Excitation of Low-lying States in Gaseous Nebulae. *Robert H. Rubin.* 309, 334, 123-E7 (1986)

Models of H II Regions: Heavy Element Opacity, Variation of Temperature: Erratum. *Robert H. Rubin.* 68, 519, 30-E1 (1988) (Orig. paper in 57, 349, 6-A1 (1985))

RUBIN, VERA C. UGC 12591: The Most Rapidly Rotating Disk Galaxy. *Riccardo Giovanelli, Martha P. Haynes, Vera C. Rubin, & W. Kent Ford, Jr.* 301, L7, 20-B4 (1986)

Is the Distribution of Mass within Spiral Galaxies a Function of Galaxy Environment? *David Burstein, Vera C. Rubin, W. Kent Ford, Jr., & Bradley C. Whitmore.* 305, L11, 74-A13 (1986)

On the Ratio of [N II]/Hα in the Nucleus of M33 and in the Nuclei of Other Galaxies. *Vera C. Rubin & W. Kent Ford, Jr.* 305, L35, 80-B1 (1986)

Evidence for a Central Massive Component in Late-Type Spirals. *Vera C. Rubin & J. A. Graham.* 316, L67, 62-B12 (1987)

Molecular and Ionized Gas in the Peculiar Galaxy NGC 2146. *Judith S. Young, M. J. Claussen, S. G. Kleinmann, Vera C. Rubin, & Nick Scoville.* 331, L81, 121-D4 (1988)

Rotation Curves for Spiral Galaxies in Clusters. I. Data, Global Properties, and a Comparison with Field Galaxies. *Vera C. Rubin, Bradley C. Whitmore, & W. Kent Ford, Jr.* 333, 522, 145-E5 (1988)

Rotation Curves for Spiral Galaxies in Clusters. II. Variations as a Function of Cluster Position. *Bradley C. Whitmore, Duncan A. Forbes, & Vera C. Rubin.* 333, 542, 145-G8 (1988)

Evidence for a Triaxial Bulge in the Spiral Galaxy NGC 4845. *Francesco Bertola, Vera C. Rubin, & Werner W. Zeilinger.* 345, L29, 157-C7 (1989)

High-Velocity Gas Drizzle into the Disk of NGC 4258. *Vera C. Rubin & J. A. Graham.* 362, L5, 174-A11 (1990)

One Galaxy from Several: The Hickson Compact Group H31. *Vera C. Rubin, Deidre A. Hunter, & W. Kent Ford, Jr.* 365, 86, 207-A10 (1990)

RUBIO, M. A Complete Survey of the Large Magellanic Cloud. *R. S. Cohen, T. M. Dame, G. Garay, J. Montani, M. Rubio, & P. Thaddeus.* 331, L95, 121-E11 (1988)

RUCINSKI, SLAVEK M. Formaldehyde Mapping of ρ Ophiuchi B1: The Densest Cold Prestellar Core. *Dimitar D. Sasselov & Slavek M. Rucinski.* 351, 578, 47-C7 (1990)

RUDAK, BRONISLAW. Relativistic Neutrons in Active Galactic Nuclei. *Marek Sikora, Mitchell C. Begelman, & Bronislaw Rudak.* 341, L33, 99-E1 (1989)

Consequences of Relativistic Proton Injection in Active Galactic Nuclei. *Mitchell C. Begelman, Bronisław Rudak, & Marek Sikora.* 362, 38, 169-E3 (1990)

RUDAZ, S. Cosmic-Ray Antiprotons, Positrons, and Gamma Rays from Halo Dark Matter Annihilation. *S. Rudaz & F. W. Stecker.* 325, 16, 19-B8 (1988)

RUDEN, STEVEN P. The Global Evolution of the Primordial Solar Nebula. *Steven P. Ruden & D. N. C. Lin.* 308, 883, 118-E12 (1986)

Mass Loss from Rapidly Rotating Magnetic Protostars. *Frank H. Shu, Susana Lizano, Steven P. Ruden, & Joan Najita.* 328, L19, 66-E7 (1988)

Axisymmetric Perturbations of Thin Gaseous Disks. I. Unstable Convective Modes and Their Consequences for the Solar Nebula. *Steven P. Ruden, J. C. B. Papaloizou, & D. N. C. Lin.* 329, 739, 85-A1 (1988)

Eccentric Gravitational Instabilities in Nearly Keplerian Disks. *Fred C. Adams, Steven P. Ruden, & Frank H. Shu.* 347, 959, 195-D11 (1989)

SLING Amplification and Eccentric Gravitational Instabilities in Gaseous Disks. *Frank H. Shu, Scott Tremaine, Fred C. Adams, & Steven P. Ruden.* 358, 495, 129-F7 (1990)

Thermal Structure of Neutral Winds from Young Stellar Objects. *Steven P. Ruden, Alfred E. Glassgold, & Frank H. Shu.* 361, 546, 164-G10 (1990)

RUDER, H. Radiative Transfer in Fast-moving Media: The Limit of the Diffusion Approximation. *A. Rebetzky, H. Herold, U. Kraus, T. Maile, H. Ruder, & K. Wolf.* 344, L33, 140-C13 (1989)

The Origin of the 10 Megagauss Zeeman Features in the AM Herculis System EF Eridani. *R. Östreicher, W. Seifert, G. Wunner, & H. Ruder.* 350, 324, 29-A7 (1990)

Radiation Viscosity: Effects on X-Ray Spectra. *A. Rebetzky, H. Herold, G. Morfill, & H. Ruder.* 350, 796, 35-G8 (1990)

RUDERMAN, M. Energetic Radiation from Rapidly Spinning Pulsars. I. Outer Magnetosphere Gaps. *K. S. Cheng, C. Ho, & M. Ruderman.* 300, 500, 8-E10 (1986)

Energetic Radiation from Rapidly Spinning Pulsars. II. Vela and Crab. *K. S. Cheng, C. Ho, & M. Ruderman.* 300, 522, 8-G5 (1986)

Evolution of a Short-Period Gamma-Ray Pulsar Family: Crab, Vela, *COS B* Source, Gamma-Ray Burst Source. *M. Ruderman & K. S. Cheng.* 335, 306, 174-A1 (1988)

Accretion Turnoff and Rapid Evaporation of Very Light Secondaries in Low-Mass X-Ray Binaries. *M. Ruderman, J. Shaham, & M. Tavani.* 336, 507, 7-E1 (1989)

Late Evolution of Very Low Mass X-Ray Binaries Sustained by Radiation from Their Primaries. *M. Ruderman, J. Shaham, M. Tavani, & D. Eichler.* 343, 292, 121-G1 (1989)

On the Origin of Pulsed Emission from the Young Supernova Remnant SN 1987A. *M. Ruderman, W. Kluźniak, & J. Shaham.* 346, L77, 181-D1 (1989)

RUDERMAN, MALVIN. Period Difference between X-Ray and Very High Energy Gamma-Ray Observations of Accreting X-Ray Pulsars. *K. S. Cheng & Malvin Ruderman.* 337, L77, 32-B10 (1989)

Self-sustained Strong Mass Transfer without Roche Lobe Overflow: Cygnus X-3. *Marco Tavani, Malvin Ruderman, & Jacob Shaham.* 342, L31, 109-C8 (1989)

RUDNICK, LAWRENCE. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

Fluid Structures in a Radio Galaxy Lobe: Observations of 3C 33 South. *Lawrence Rudnick.* 325, 189, 21-B11 (1988)

Flow Patterns in Radio Hot Spots: A Study of 3C 33 North. *Lawrence Rudnick & Martha Anderson.* 355, 427, 93-F7 (1990)

RUDOLPH, ALEXANDER. Herbig-Haro Objects as Shocked Ambient Cloudlets—High-Resolution Radio Observations of HH 7–11. *Alexander Rudolph & William J. Welch.* 326, L31, 38-C10 (1988)

Dynamical Collapse of the W51 Star-forming Region. *Alexander Rudolph, William J. Welch, Patrick Palmer, & Berengere Dubrulle.* 363, 528, 190-F9 (1990)

RUDOLPH, DANA B. A Catalog of Observations for Stellar Masers. *Priscilla J. Benson, Irene R. Little-Marenin, Tara C. Woods, Joanne M. Attridge, Kristin A. Blais, Dana B. Rudolph, Myra E. Rubiera, & Heidi L. Keefe.* 74, 911, 44-B7 (1990)

RUDY, RICHARD J. Extended Nonnuclear Infrared Emission from Seyfert Galaxies. *J. M. Rodríguez-Espinosa, Richard J. Rudy, & Barbara Jones.* 309, 76, 120-G7 (1986)

Variability of Markarian 1018: Seyfert 1.9 to Seyfert 1. *Ross D. Cohen, Richard J. Rudy, R. C. Puetter, T. B. Ake, & Craig B. Foltz.* 311, 135, 147-E2 (1986)

Star Formation in Seyfert Galaxies. *J. M. Rodríguez-Espinosa, Richard J. Rudy, & Barbara Jones.* 312, 555, 9-A1 (1987)

Airborne Spectrophotometry of Eta Carinae from 4.5 to 7.5 Microns and a Model for Source Morphology. *Ray W. Russell, David K. Lynch, John A. Hackwell, Richard J. Rudy, George S. Rossano, & M. W. Castelaz.* 321, 937, 134-F12 (1987)

The Nature of the Strong, Static Polarization of the Quasar OI 287. *Richard J. Rudy & Gary D. Schmidt.* 331, 325, 109-G1 (1988)

Ultraviolet and Optical Spectrophotometry of the Seyfert 1.8 Galaxy Markarian 609. *Richard J. Rudy, Ross D. Cohen, & T. B. Ake.* 332, 172, 125-A2 (1988)

He I λ10830 Observations of Seyfert 2 Galaxies. *Richard J. Rudy, Ross D. Cohen, George S. Rossano, R. C. Puetter, & Scott C. Chapman.* 341, 120, 85-D8 (1989)

Detection of the O I 11287 Å Line in the Seyfert 1 Galaxy I Zw 1. *Richard J. Rudy, George S. Rossano, & R. C. Puetter.* 342, 235, 103-F14 (1989)

The Near-Infrared Oxygen I Lines of the Planetary Nebula IC 4997. *Richard J. Rudy, George S. Rossano, & R. C. Puetter.* 346, 799, 177-C6 (1989)

Optical and Infrared Spectrophotometry of the Symbiotic System V1016 Cygni. *Richard J. Rudy, Ross D. Cohen, George S. Rossano, & R. C. Puetter.* 362, 346, 173-D7 (1990)

RUIZ, A. OH Outflows in Star-forming Regions. *I. F. Mirabel, A. Ruiz, L. F. Rodríguez, & J. Cantó.* 318, 729, 89-A1 (1987)

Anomalous OH Emission in Galactic Star-forming Regions: A Clue to the Megamaser Phenomenon? *I. F. Mirabel, L. F. Rodríguez, & A. Ruiz.* 346, 180, 168-C11 (1989)

RUIZ, ABRAHAM. VLA Observations of the High-Velocity Bipolar OH Absorption in L1551. *Luis F. Rodríguez, Jorge Cantó, I. Félix Mirabel, & Abraham Ruiz.* 337, 712, 27-G1 (1989)

RUIZ, M. T. IRAS 18059–3211: Optically Known as "Gomez's Hamburger": Erratum. *M. T. Ruiz, V. Blanco, J. Maza, S. Heathcote, A. Phillips, K. Kawara, C. Anguita, M. Hamuy, & A. Gómez.* 320, L157, 121-F14 (1987) (Orig. paper in 316, L21, 56-B10 (1987))

RUIZ, MARÍA TERESA. ER 8: A Very Low Luminosity Degenerate Star. *María Teresa Ruiz, José Maza, Marina Wischnjewsky, & Luis E. González.* 304, L25, 61-B12 (1986)

MSH 10–53: A Supernova Remnant Interacting with Molecular Clouds. *María Teresa Ruiz & Jorge May.* 309, 667, 128-E6 (1986)

IRAS 18059–3211: Optically Known as "Gomez's Hamburger." *María Teresa Ruiz, Víctor Blanco, José Maza, Steve Heathcote, Andrew Phillips, Kimiaki Kawara, Claudio Anguita, Mario Hamuy, & Arturo Gómez.* 316, L21, 56-B10 (1987)

ESO 439–162/163: A Common Proper Motion Binary Formed by a Magnetic DQ and a DC Type White Dwarf. *María Teresa Ruiz & José Maza.* 335, L15, 177-B7 (1988)

Calán-Tololo Survey. I. Seyfert 1 Galaxies. *José Maza, María Teresa Ruiz, Luis E. González, & Marina Wischnjewsky.* 69, 349, 6-B1 (1989)

Spectrophotometry of Calán-Tololo Seyfert Galaxies: Objects from List 1. *José Maza & María Teresa Ruiz.* 69, 353, 6-C1 (1989)

RUPEN, MICHAEL R. VLBI Observations of SN 1986J: Deviations from Spherical Symmetry in Its Radio Brightness Distribution. *Norbert Bartel, Michael R. Rupen, & Irwin I. Shapiro.* 337, L85, 32-C7 (1989)

RUSK, A. C. M. Excitation and Dissociation of Molecular Hydrogen in Shock Waves at Interstellar Densities. *J. E. Dove, A. C. M. Rusk, P. H. Cribb, & P. G. Martin.* 318, 379, 83-A11 (1987)

RUSK, EDWIN T. The Poynting-Robertson Effect of a Rotating Star. *Edwin T. Rusk.* 320, 315, 111-E2 (1987)

RUSSELL, A. P. G. Discovery of New 2 Micron Sources in ρ Ophiuchi. *M. Barsony, Michael G. Burton, A. P. G. Russell, J. E. Carlstrom, & R. Garden.* 346, L93, 181-E4 (1989)

Detection of an Isotopic Short Submillimeter CO Line: Column Densities of Warm Gas in Molecular Clouds. *U. U. Graf, R. Genzel, A. I. Harris, R. E. Hills, A. P. G. Russell, & J. Stutzki.* 358, L49, 133-C8 (1990)

RUSSELL, ADRIAN P. G. Images of Shock-excited Molecular Hydrogen in Young Stellar Outflows. *Rognvald P. Garden, Adrian P. G. Russell, & Michael G. Burton.* 354, 232, 76-G5 (1990)

RUSSELL, J. L. *IUE* Observations of Interstellar Hydrogen and Deuterium toward Alpha Centauri B. *W. B. Landsman, J. Murthy, R. C. Henry, H. W. Moos, J. L. Linsky, & J. L. Russell.* 303, 791, 51-B12 (1986)

RUSSELL, JANE L. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

RUSSELL, R. S. Non–LTE Model Calculations for SN 1987A and the Extragalactic Distance Scale. *W. Schmutz, D. C. Abbott, R. S. Russell, W.-R. Hamann, & U. Wessolowski.* 355, 255, 90-A12 (1990)

RUSSELL, R. W. Simulation of Cosmic Dust Spectra. *J. H. Hecht, R. W. Russell, J. R. Stephens, & P. R. Grieve.* 309, 90, 121-A7 (1986)

Infrared Observations of SN 1987A from 5.3 to 12.6 Microns: Evidence for an Early Dust Echo. *D. M. Rank, J. Bregman, F. C. Witteborn, M. Cohen, D. K. Lynch, & R. W. Russell.* 325, L1, 25-A4 (1988)

RUSSELL, RAY W. Airborne Spectrophotometry of Eta Carinae from 4.5 to 7.5 Microns and a Model for Source Morphology. *Ray W. Russell, David K. Lynch, John A. Hackwell, Richard J. Rudy, George S. Rossano, & M. W. Castelaz.* 321, 937, 134-F12 (1987)

RUSSELL, STEPHEN C. Abundances of Heavy Elements in the Magellanic Clouds. I. Metal Abundances of F-Type Supergiants. *Stephen C. Russell & Michael S. Bessell.* 70, 865, 32-A1 (1989)

Abundances of the Heavy Elements in the Magellanic Clouds. II. H II Regions and Supernova Remnants. *Stephen C. Russell & Michael A. Dopita.* 74, 93, 31-B7 (1990)

RUSSO, GIOVANNI. Stability Properties of Relativistic Shock Waves: Applications. *Giovanni Russo.* 334, 707, 164-B11 (1988)

RUST, D. M. Doppler-shifted Emission from Helium Ions Accelerated in Solar Flares. *Th. Peter, E. N. Ragozin, A. M. Urnov, D. B. Uskov, & D. M. Rust.* 351, 317, 42-A10 (1990)

RYAN, EILEEN V. The Identification of Crystalline Olivine in Cometary Silicates. *Humberto Campins & Eileen V. Ryan.* 341, 1059, 98-C8 (1989)

RYAN, J. M. On the Proton Origin of a Small Gamma-Ray Solar Flare. *J. M. Ryan & G. M. Simnett.* 341, 506, 90-B4 (1989)

RYAN, JAMES M. Time-dependent Coronal Shock Acceleration of Energetic Solar Flare Particles. *Martin A. Lee & James M. Ryan.* 303, 829, 51-E9 (1986)

RYAN, SEAN G. Population Studies: Evidence for Accretion of the Galactic Halo. *John E. Norris & Sean G. Ryan.* 336, L17, 8-C13 (1989)

Population Studies. VII. On the Use of *UBV* Data for Kinematically Selected Samples to Determine the Dependence of Kinematics on Abundance. *John E. Norris & Sean G. Ryan.* 340, 739, 77-F1 (1989)

^{9}Be Abundance in Population II Stars: Implications for Light-Element Nucleosynthesis. *Sean G. Ryan, M. S. Bessell, Ralph S. Sutherland, & John E. Norris.* 348, L57, 13-B10 (1990)

RYBA, M. F. The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

RYBARCYK, LAWRENCE J. Alpha-Burning of ^{14}O. *Michael Wiescher, Volker Harms, Joachim Görres, Friedrich-Karl Thielemann, & Lawrence J. Rybarcyk.* 316, 162, 51-F10 (1987)

RYBICKI, G. B. Instabilities in Line-driven Stellar Winds. III. Wave Propagation in the Case of Pure Line Absorption. *S. P. Owocki & G. B. Rybicki.* 309, 127, 121-D4 (1986)

Instabilities in Line-driven Stellar Winds. IV. Linear Perturbations in Three Dimensions. *G. B. Rybicki, S. P. Owocki, & J. I. Castor.* 349, 274, 17-C6 (1990)

RYBICKI, GEORGE B. Time-dependent Models of Radiatively Driven Stellar Winds. I. Nonlinear Evolution of Instabilities for a Pure Absorption Model. *Stanley P. Owocki, John I. Castor, & George B. Rybicki.* 335, 914, 182-F9 (1988)

Fast Algorithm for Spectral Analysis of Unevenly Sampled Data. *William H. Press & George B. Rybicki.* 338, 277, 36-D1 (1989)

RYBSKI, P. Interstellar Absorption Lines in the Galaxy NGC 1705. *D. G. York, A. Caulet, P. Rybski, J. Gallagher, J. C. Blades, D. C. Morton, & W. Wamsteker.* 351, 412, 45-B9 (1990)

RYDBECK, G. Observations of CO Isotopic Emission and the Far-Infrared Continuum of Centaurus A. *A. Eckart, M. Cameron, H. Rothermel, W. Wild, H. Zinnecker, G. Rydbeck, M. Olberg, & T. Wiklind.* 363, 451, 189-F11 (1990)

Molecular Absorption Lines toward the Nucleus of Centaurus A. *A. Eckart, M. Cameron, R. Genzel, J. M. Jackson, H. Rothermel, J. Stutzki, G. Rydbeck, & T. Wiklind.* 365, 522, 214-F7 (1990)

RYDEN, BARBARA S. Molecules in Galaxies. I. CO Observations in a Spiral Arm of M31. *Barbara S. Ryden & Antony A. Stark.* 305, 823, 78-A1 (1986)

Galaxy Formation by Gravitational Collapse. *Barbara S. Ryden & James E. Gunn.* 318, 15, 79-B5 (1987)

Galaxy Formation: The Role of Tidal Torques and Dissipational Infall. *Barbara S. Ryden.* 329, 589, 83-B6 (1988)

The Collapse of Density Peaks in a Gaussian Random Field. *Barbara S. Ryden.* 333, 78, 138-G2 (1988)

The Area of Isodensity Contours as a Measure of Large-Scale Structure. *Barbara S. Ryden.* 333, L41, 152-B9 (1988)

The Area of Isodensity Contours in Cosmological Models and Galaxy Surveys. *Barbara S. Ryden, Adrian L. Melott, David A. Craig, J. Richard Gott III, David H. Weinberg, Robert J. Scherrer, Suketu P. Bhavsar, & John M. Miller.* 340, 647, 76-E1 (1989)

Dynamical Evolution of Domain Walls in an Expanding Universe. *William H. Press, Barbara S. Ryden, & David N. Spergel.* 347, 590, 190-E3 (1989)

The Evolution of Networks of Domain Walls and Cosmic Strings. *Barbara S. Ryden, William H. Press, & David N. Spergel.* 357, 293, 116-C1 (1990)

RYDGREN, A. E. Further Evidence for Rotational Modulation of the Light from T Tauri Stars. *F. J. Vrba, A. E. Rydgren, P. F. Chugainov, N. I. Shakovskaya, & D. S. Zak.* 306, 199, 83-D10 (1986)

X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, N. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

RYTER, C. Small Grains and *IRAS* Colors. *F. Boulanger, C. Beichman, F. X. Désert, G. Helou, M. Pérault, & C. Ryter.* 332, 328, 126-F10 (1988)

RYU, DONGSU. The Growth of Linear Perturbations of Adiabatic Shock Waves. *Dongsu Ryu & Ethan T. Vishniac.* 313, 820, 25-F8 (1987)

A Linear Stability Analysis for Wind-driven Bubbles. *Dongsu Ryu & Ethan T. Vishniac.* 331, 350, 110-B1 (1988)

On the Stability of Decelerating Shocks. *Ethan T. Vishniac & Dongsu Ryu.* 337, 917, 30-C6 (1989)

Evolution of the Intergalactic Medium in a Cold Dark Matter–dominated Universe. *Wei-Hwan Chiang, Dongsu Ryu, & Ethan T. Vishniac.* 339, 603, 59-D1 (1989)

Neutron Stars and White Dwarfs in Galactic Halos? *Dongsu Ryu, Keith A. Olive, & Joseph Silk.* 353, 81, 63-B1 (1990)

A Model for the Distribution of the Intergalactic Medium. *Dongsu Ryu, Ethan T. Vishniac, & Wei-Hwan Chiang.* 354, 389, 81-C1 (1990)

SAAR, ENN. Multifractal Description of the Large-Scale Structure of the Universe. *Bernard J. T. Jones, Vicent J. Martínez, Enn Saar, & Jaan Einasto.* 332, L1, 129-B5 (1988)

SAAR, S. H. Relations between the Photospheric Magnetic Field and the Emission from the Outer Atmospheres of Cool Stars. I. The Solar Ca II K Line Core Emission. *C. J. Schrijver, J. Coté, C. Zwaan, & S. H. Saar.* 337, 964, 30-F12 (1989)

SAAR, STEVEN H. The Magnetic Field of the BY Draconis Flare Star EQ Virginis. *Steven H. Saar, Jeffrey L. Linsky, & Jacques M. Beckers.* 302, 777, 39-B12 (1986)
Improved Methods for the Measurement and Analysis of Stellar Magnetic Fields. *Steven H. Saar.* 324, 441, 6-A11 (1988)
Relations between Broad-Band Linear Polarization and Ca II H and K Emission in Late-Type Dwarf Stars. *Juhani Huovelin, Steven H. Saar, & Ilkka Tuominen.* 329, 882, 86-F6 (1988)
The Active Chromosphere Binary HD 17433 (VY Arietis). *Bernard W. Bopp, Steven H. Saar, Carol Ambruster, Paul Feldman, Robert Dempsey, Morgan Allen, & Samuel C. Barden.* 339, 1059, 64-G1 (1989)
SAAVEDRA, O. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)
SABA, J. L. R. Microwave and X-Ray Observations of a Major Confined Solar Flare. *E. J. Schmahl, J. T. Schmelz, J. L. R. Saba, K. T. Strong, & M. R. Kundu.* 358, 654, 131-F2 (1990)
SABA, JULIA L. R. Flare Heating and Ionization of the Low Solar Chromosphere. II. Observations of Five Solar Flares. *Thomas R. Metcalf, Richard C. Canfield, & Julia L. R. Saba.* 365, 391, 211-C1 (1990)
SABBADIN, FRANCO. Padova 1: A Heavily Obscured Seyfert Galaxy in Aquila. *Franco Sabbadin, Enrico Cappellaro, Luciano Salvadori, & Massimo Turatto.* 347, L5, 189-B5 (1989)
SACCO, B. Observation of the Vela Pulsar, PSR 0833–45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)
Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)
Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)
SACK, N. The Effects of Neutrino Transport on the Collapse of Iron Stellar Cores. *E. S. Myra, S. A. Bludman, Y. Hoffman, I. Lichenstadt, N. Sack, & K. A. Van Riper.* 318, 744, 89-B2 (1987)
SACK, N. J. Current Density Effects and the Importance of Charge Transfer Processes in the Radiolysis of Methane: Astrophysical Implications. *N. J. Sack, R. Schuster, A. Hofmann, A. Khedim, & R. Koppmann.* 360, 305, 148-G1 (1990)
SACKETT, PENNY D. The Dark Halo of the Polar-Ring Galaxy NGC 4650A. *Penny D. Sackett & Linda S. Sparke.* 361, 408, 163-B11 (1990)
SACKMANN, I.-JULIANA. Low-Mass Stars. I. Flash-driven Luminosity and Radius Variations for Low-Mass Stars. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 328, 632, 70-A10 (1988)
Low-Mass Stars. II. The Core Mass–Luminosity Relations for Low-Mass Stars. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 328, 641, 70-B5 (1988)
Low-Mass Stars. III. Low-Mass Stars with Steady Mass Loss: Up to the Asymptotic Giant Branch and through the Final Thermal Pulses. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 328, 653, 70-C3 (1988)
Low-Mass Stars. IV. The Production of Carbon Stars. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 328, 671, 70-D7 (1988)
Our Sun. I. The Standard Model: Successes and Failures. *I.-Juliana Sackmann, Arnold I. Boothroyd, & William A. Fowler.* 360, 727, 155-B9 (1990)
SADAKANE, KOZO. The Abundance of Gallium in B-Type Chemically Peculiar Stars. *Masahide Takada-Hidai, Kozo Sadakane, & Jun Jugaku.* 304, 425, 58-D14 (1986)
The Abundance of Gallium in B-Type Chemically Peculiar Stars: Addendum. *Masahide Takada-Hidai, Kozo Sadakane, & Jun Jugaku.* 320, 437, 112-G4 (1987) (Orig. paper in 304, 425, 58-D14 (1986))
The Abundance of Zinc in Hg-Mn Stars. *Kozo Sadakane, Jun Jugaku, & Masahide Takada-Hidai.* 325, 776, 29-A13 (1988)
SADJADI, SINA. The Incidence of Close Binaries among Stars of Low Mass: Astrophysical Binaries. *Arthur Young, Sina Sadjadi, & Eugene Harlan.* 314, 272, 31-B1 (1987)
SADOULET, B. Testing the Weakly Interacting, Massive Particle Explanation of the Solar Neutrino Puzzle with Conventional Silicon Detectors. *B. Sadoulet, J. Rich, M. Spiro, & D. O. Caldwell.* 324, L75, 18-D8 (1988)
SAEZ, DIEGO. Breaking Scale Invariance with Quantum Gravity. *Luca Amendola, Franco Occhionero, & Diego Saez.* 349, 399, 20-C1 (1990)
SAFFER, REX A. The Very Low Mass Triple System: G208–44AB and G208–45. *D. W. McCarthy, Jr., Todd J. Henry, Thomas A. Fleming, Rex A. Saffer, James Liebert, & Julian C. Christou.* 333, 943, 150-F1 (1988)
Discovery of a Close Detached Binary DA White Dwarf System. *Rex A. Saffer, James Liebert, & Edward W. Olszewski.* 334, 947, 167-A1 (1988)
SAFRONOVA, U. I. Measurement of Wavelengths and Lamb Shifts for Inner-Shell Transitions in Fe XVIII–XXIV. *J. F. Seely, U. Feldman, & U. I. Safronova.* 304, 838, 65-C12 (1986)
SAGAR, RAM. Near-Infrared Photometric Study of Open Star Cluster IC 1805. *Ram Sagar & Qian Zhong Yu.* 353, 174, 64-C7 (1990)
SAGE, L. J. Star-Formation Rates, Molecular Clouds, and the Origin of the Far-Infrared Luminosity of Isolated and Interacting Galaxies. *P. M. Solomon & L. J. Sage.* 334, 613, 163-B6 (1988)
Detection of CO Emission from S0 Galaxies. *L. J. Sage & J. M. Wrobel.* 344, 204, 135-E3 (1989)
SAGE, LESLIE J. The Extraordinary CO Luminosity of the Far-Infrared Galaxy VII Zw 31: A Possible Proto-Galactic Disk? *Leslie J. Sage & P. M. Solomon.* 321, L103, 137-A9 (1987)
Star Formation, Molecular Clouds, and the Origin of Blue Light from Galaxies. *Leslie J. Sage & P. M. Solomon.* 342, L15, 109-B6 (1989)
CO Emission from NGC 5195. *Leslie J. Sage.* 344, 200, 135-D12 (1989)
Dense Molecular Gas, Star Formation, and the CO to H_2 Conversion Factor in Nearby Galaxies. *Leslie J. Sage, Steven N. Shore, & P. M. Solomon.* 351, 422, 45-C10 (1990)
MCG 06-45-001: Not a Local Group Galaxy. *Steven N. Shore & Leslie J. Sage.* 362, L9, 174-B5 (1990)
SAGLIA, R. P. Masses and Mass-to-Light Ratios for Eight Ellipticals from a Test of Anisotropic Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 330, 78, 90-G7 (1988)
SAHA, A. BD −3°2525: A Spectroscopic Binary Subdwarf. *Jesse L. Greenstein & A. Saha.* 304, 721, 64-A1 (1986)
SAHADE, JORGE. The Extended Atmosphere of λ Pavonis at the Time of the Emergence of H-Emissions from Minimum Intensity. *Jorge Sahade, Marta Rovira, Adela E. Ringuelet, Yoji Kondo, & Lydia Cidale.* 327, 335, 50-F1 (1988)
An Interpretation of the Line Profile Variations in the *IUE* Spectrum of the Wolf-Rayet Binary γ_2 Velorum. *Estela Brandi, Osvaldo E. Ferrer, & Jorge Sahade.* 340, 1091, 81-G6 (1989)
An Interpretation of the Line Profile Variations in the *IUE* Spectrum of the Wolf-Rayet Binary γ_2 Velorum: Erratum. *Estela Brandi, Osvaldo Ferrer, & Jorge Sahade.* 347, 561, 188-G12 (1989) (Orig. paper in 340, 1091, 81-G6 (1989))
Analysis of the Velocity Law in the Wind of the Be Star λ Pavonis. *Haiqi Chen, Adela Ringuelet, Jorge Sahade, & Yoji Kondo.* 347, 1082, 197-A1 (1989)
SAHAI, R. Mass Loss from Giant and Supergiant Stars. *P. G. Wannier & R. Sahai.* 311, 335, 149-F12 (1986)
A Hot, Low Mass-Loss Rate Inner Envelope in IRC +10216. *R. Sahai.* 318, 809, 89-F11 (1987)
Abundances in Red Giant Stars: Carbon and Oxygen Isotopes in Carbon-rich Molecular Envelopes. *P. G. Wannier & R. Sahai.* 319, 367, 97-B2 (1987)
Mass Loss from Red Giant Stars. II. Carbon Stars. *P. G. Wannier, R. Sahai, B-G Andersson, & H. R. Johnson.* 358, 251, 125-C1 (1990)

A New Self-consistent Model of Circumstellar CO Emission for Deriving Mass-Loss Rates in Red Giants. I. The Carbon-rich Star U Camelopardalis. *R. Sahai.* 362, 652, 178-G7 (1990)

SAHAL-BRÉCHOT, S. Impact Line Linear Polarization as a Diagnostic of 100 keV Proton Acceleration in Solar Flares. *J. C. Hénoux, G. Chambe, D. Smith, D. Tamres, N. Feautrier, M. Rovira, & S. Sahal-Bréchot.* 73, 303, 21-G11 (1990)

SAIO, HIDEYUKI. Initial Mass Function for Zero-Metal Stars. *Yuzuru Yoshii & Hideyuki Saio.* 301, 587, 22-B3 (1986)

Off-Center Ignition of Nuclear Burning in Merging White Dwarfs. *Yasushi Kawai, Hideyuki Saio, & Ken'ichi Nomoto.* 315, 229, 42-D12 (1987)

A Linear Thermal Stability Analysis for the Vertical Structure of Alpha Model Accretion Disks. *Hideyuki Saio, John K. Cannizzo, & J. Craig Wheeler.* 316, 716, 60-A1 (1987)

Steady State Models of White Dwarfs Accreting Helium or Carbon/Oxygen–rich Matter. *Yasushi Kawai, Hideyuki Saio, & Ken'ichi Nomoto.* 328, 207, 64-C2 (1988)

Radial Pulsation in Luminous Hot Helium Stars. *Hideyuki Saio & C. Simon Jeffery.* 328, 714, 70-G11 (1988)

Why Did the Progenitor of SN 1987A Undergo the Blue-Red-Blue Evolution? *Hideyuki Saio, Mariko Kato, & Ken'ichi Nomoto.* 331, 388, 110-E5 (1988)

Stellar Wind during Helium Nova Outburst. *Mariko Kato, Hideyuki Saio, & Izumi Hachisu.* 340, 509, 73-E5 (1989)

A New Way to Type Ia Supernovae: Explosion in Common Envelope. *Izumi Hachisu, Mariko Kato, & Hideyuki Saio.* 342, L19, 109-B10 (1989)

Line Profile Variations Caused by Low-Frequency Nonradial Pulsations of Rapidly Rotating Stars. *Umin Lee & Hideyuki Saio.* 349, 570, 22-D1 (1990)

Excitation Mechanism of Very Slow Oscillations of the Jovian Atmosphere. *Umin Lee & Hideyuki Saio.* 359, L29, 138-C7 (1990)

Energy of Oscillation: The Role of the Negative Energy Mode in Overstable Nonradial Oscillations of Rotating Stars. *Umin Lee & Hideyuki Saio.* 360, 590, 153-E5 (1990)

Viscous Evolution of Self-gravitating Galactic Disks within a Dark Halo. *Hideyuki Saio & Yuzuru Yoshii.* 363, 40, 182-F4 (1990)

SAITO, S. Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews, Y. Minh, S. Saito, N. Ukita, & S. Yamamoto.* 342, 871, 113-B5 (1989)

Search for HC_3NH^+: The Upper Limit of the Column Density in TMC-1. *T. Amano, S. Saito, S. Yamamoto, K. Kawaguchi, H. Suzuki, M. Ohishi, & N. Kaifu.* 351, 500, 46-C6 (1990)

Interstellar Cyanomethane. *B. E. Turner, P. Friberg, W. M. Irvine, S. Saito, & S. Yamamoto.* 355, 546, 95-C4 (1990)

SAITO, SHUJI. The Laboratory Observation of the J=1–0, K=0 Transition of the H_3S^+ Ion. *Shuji Saito, Satoshi Yamamoto, & Takayoshi Amano.* 314, L27, 33-C14 (1987)

Detection of Intense Unidentified Lines in TMC-1. *Norio Kaifu, Hiroko Suzuki, Masatoshi Ohishi, Takeshi Miyaji, Shin-ichi Ishikawa, Takashi Kasuga, Masaki Morimoto, & Shuji Saito.* 317, L111, 78-E14 (1987)

Laboratory Detection and Astronomical Identification of a New Free Radical, $CCS(^3\Sigma^-)$. *Shuji Saito, Kentarou Kawaguchi, Satoshi Yamamoto, Masatoshi Ohishi, Hiroko Suzuki, & Norio Kaifu.* 317, L115, 78-F3 (1987)

Laboratory Detection of a New Carbon-Chain Molecule C_3S and Its Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Norio Kaifu, Hiroko Suzuki, & Masatoshi Ohishi.* 317, L119, 78-F7 (1987)

Laboratory and Astronomical Detection of the Cyclic H_3H Radical. *Satoshi Yamamoto, Shuji Saito, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, Norio Kaifu, & Akinori Murakami.* 322, L55, 145-D12 (1987)

Laboratory Microwave Spectroscopy of the Vibrational Satellites for the ν_7 and $2\nu_7$ States of C_4H and Their Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, M. Guélin, J. Cernicharo, Hiroko Suzuki, & Masatoshi Ohishi.* 323, L149, 164-E8 (1987)

The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)

Laboratory Detection of a New Interstellar Free Radical $CH_2CN(^2B_1)$. *Shuji Saito, Satoshi Yamamoto, W. M. Irvine, L. M. Ziurys, Hiroko Suzuki, Masatoshi Ohishi, & Norio Kaifu.* 334, L113, 169-F10 (1988)

The Microwave Spectrum of the CP Radical and Related Astronomical Search. *Shuji Saito, Satoshi Yamamoto, Kentarou Kawaguchi, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, & Norio Kaifu.* 341, 1114, 99-A1 (1989)

Detection of a New Circumstellar Carbon Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)

Laboratory Microwave Spectroscopy of the Linear C_3 and C_3D Radicals and Related Astronomical Observation. *Satoshi Yamamoto, Shuji Saito, Hiroko Suzuki, Shuji Deguchi, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 348, 363, 5-E1 (1990)

Rotational Spectrum of the CCS Radical Studied by Laboratory Microwave Spectroscopy and Radio-astronomical Observations. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Yoshihiro Chikada, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 361, 318, 160-G7 (1990)

Laboratory Microwave Spectrum of the Cyclic C_3D Radical. *Satoshi Yamamoto & Shuji Saito.* 363, L13, 187-B7 (1990)

SAITO, TO. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

SAKAI, J. Current Loop Coalescence Model of Solar Flares. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 321, 1031, 135-F10 (1987)

Current Loop Coalescence Model of Solar Flares: Erratum. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 329, 517, 80-G1 (1988) (Orig. paper in 321, 1031, 135-F10 (1987))

SAKAI, JUN-ICHI. Nonstochastic Prompt Proton Acceleration by Fast Magnetosonic Shocks in the Solar Plasma. *Yukiharu Ohsawa & Jun-ichi Sakai.* 313, 440, 19-G4 (1987)

Prompt Simultaneous Acceleration of Protons and Electrons to Relativistic Energies by Shock Waves in Solar Flares. *Yukiharu Ohsawa & Jun-ichi Sakai.* 332, 439, 128-A1 (1988)

Prompt Particle Acceleration and Plasma Jet Formation during Current Loop Coalescence in Solar Flares. *Jun-ichi Sakai.* 73, 321, 22-B7 (1990)

High-Energy Particle Acceleration during the Implosion Driven by Three-dimensional X-Type Current Loop Coalescence in Solar Flares. *Jun-ichi Sakai.* 365, 354, 210-G1 (1990)

SAKAO, T. Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

SAKAO, TARO. Discovery of a Cyclotron Absorption Line in the Spectrum of the Binary X-Ray Pulsar 4U 1538–52 Observed by

Ginga. George W. Clark, Jonathan W. Woo, Fumiaki Nagase, Kazuo Makishima, & Taro Sakao. 353, 274, 65-E8 (1990)

SAKATA, A. High Spectral Resolution Observations of HD 44179 at 3.2–3.7 Microns. *A. T. Tokunaga, T. Nagata, K. Sellgren, R. G. Smith, T. Onaka, Y. Nakada, A. Sakata, & S. Wada.* 328, 709, 70-G6 (1988)

Quenched Carbonaceous Composite. III. Comparison to the 3.29 Micron Interstellar Emission Feature. *A. Sakata, S. Wada, T. Onaka, & A. T. Tokunaga.* 353, 543, 70-F5 (1990)

SAKATA, AKIRA. Infrared Spectrum of Quenched Carbonaceous Composite (QCC). II. A New Identification of the 7.7 and 8.6 Micron Unidentified Infrared Emission Bands. *Akira Sakata, Setsuko Wada, Takashi Onaka, & Alan T. Tokunaga.* 320, L63, 114-E9 (1987)

High-Resolution Spectroscopy of the 3 Micron Emission Features in NGC 7027 and IRAS 21282+5050. *Tetsuya Nagata, Alan T. Tokunaga, K. Sellgren, Robert G. Smith, Takashi Onaka, Yoshikazu Nakada, & Akira Sakata.* 326, 157, 33-G5 (1988)

SAKATA, M. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

SAKEN, JON M. Discovery of the Remnant of S Andromedae (SN 1885) in M31. *Robert A. Fesen, Andrew J. S. Hamilton, & Jon M. Saken.* 341, L55, 99-E10 (1989)

Pulsar Reenergization of Old Supernova Remnant Shells. *J. Michael Shull, Robert A. Fesen, & Jon M. Saken.* 346, 860, 178-A1 (1989)

SAKIMOTO, K. Para/Ortho Abundance Ratio of Molecular Hydrogen in NGC 2023. *K. Takayanagi, K. Sakimoto, & K. Onda.* 318, L81, 92-E2 (1987)

SAKIMOTO, PHILIP J. Buoyancy-limited Magnetic Viscosity in Quasi-stellar Object Accretion Disk Models. *Philip J. Sakimoto & Ferdinand V. Coroniti.* 342, 49, 101-E14 (1989)

SALAMA, A. Infrared Emission from Interplanetary Dust. *P. Temi, P. de Bernardis, S. Masi, G. Moreno, & A. Salama.* 337, 528, 24-B1 (1989)

SALAMON, M. H. Elemental Technetium and Promethium as Cosmic-Ray Clocks. *J. Drach & M. H. Salamon.* 319, 237, 95-E9 (1987)

Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

SALAS, LUIS. Near-Infrared Imaging of Lynds 1551 IRS 5. *Klaus-Werner Hodapp, Richard W. Capps, Stephen E. Strom, Luis Salas, & Gary L. Grasdalen.* 335, 814, 181-E8 (1988)

SALATI, PIERRE. A Stellar Probe of Dark Matter Annihilation in Galactic Nuclei. *Pierre Salati & Joseph Silk.* 338, 24, 33-C4 (1989)

Dark Matter and the Suppression of Stellar Core Convection. *Alain Bouquet & Pierre Salati.* 346, 284, 169-F1 (1989)

Dark Matter Particles as Inhibitors of the Solar Core Pulsations. *Pierre Salati.* 348, 738, 11-F1 (1990)

Dark Matter and Thermal Pulses in Horizontal-Branch Stars. *David Dearborn, Georg Raffelt, Pierre Salati, Joseph Silk, & Alain Bouquet.* 354, 568, 83-D3 (1990)

Thermal Relaxation Oscillations in Horizontal-Branch Stars. *Pierre Salati, Georg Raffelt, & David Dearborn.* 357, 566, 119-F1 (1990)

SALE, K. E. Primordial Nucleosynthesis in Inhomogeneous Cosmologies: $\Omega = 1$ with Baryons. *K. E. Sale & G. J. Mathews.* 309, L1, 125-C8 (1986)

SALINARI, PIERO. Evidence of Pulsation and Circumstellar Shells in Late-Type Giants by Means of Lunar Occultations. *Andrea Richichi, Piero Salinari, & Franco Lisi.* 326, 791, 42-C5 (1988)

SALMON, J. K. Halos in Open and Closed Universes: Differentiated Merging and Natural Selection of Galaxy Types. *W. H. Zurek, P. J. Quinn, & J. K. Salmon.* 330, 519, 98-C1 (1988)

SALONEN, E. Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)

SALONEN, ERKKI. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

SALOTTI, L. A Deep Optical Study of the Field of 1E 0630+178. *G. F. Bignami, P. A. Caraveo, J. A. Paul, L. Salotti, & L. Vigroux.* 319, 358, 97-A1 (1987)

SALPETER, E. E. Primordial Stellar Evolution: The Protostar Phase. *Steven W. Stahler, Francesco Palla, & E. E. Salpeter.* 302, 590, 37-A13 (1986)

Primordial Stellar Evolution: The Pre–Main-Sequence Phase. *Steven W. Stahler, Francesco Palla, & E. E. Salpeter.* 308, 697, 116-E9 (1986)

H I Detection Survey of a Complete Magnitude-limited Sample of Dwarf Irregular Galaxies in the Virgo Cluster Area. *G. Lyle Hoffman, George Helou, E. E. Salpeter, John Glosson, & A. Sandage.* 63, 247, 4-A5 (1987)

Deceleration of Infalling Plasma in the Atmospheres of Accreting Neutron Stars. I. Isothermal Atmospheres. *G. S. Miller, E. E. Salpeter, & I. Wasserman.* 314, 215, 30-D13 (1987)

Gasdynamical Stripping of Elliptical Galaxies. *T. J. Gaetz, E. E. Salpeter, & G. Shaviv.* 316, 530, 57-G3 (1987)

1.4 GHz Continuum Sources in the Cancer Cluster. *E. E. Salpeter & J. M. Dickey.* 317, 102, 65-B1 (1987)

Comparative Properties of Virgo Cluster Dwarf Irregulars and Spirals. *G. Lyle Hoffman, George Helou, & E. E. Salpeter.* 324, 75, 1-F12 (1988)

IRAS Galaxies at Low Galactic and High Supergalactic Latitudes. *M. W. Dow, N. Y. Lu, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 324, L51, 18-B9 (1988)

Galactic Fountains and Extended H I Disks. *E. Corbelli & E. E. Salpeter.* 326, 551, 39-E7 (1988)

H I Observations in the Virgo Cluster Area. III. All "Member" Spirals. *G. Lyle Hoffman, B. M. Lewis, George Helou, E. E. Salpeter, & Hayes L. Williams.* 69, 65, 1-G1 (1989)

Blue Compact Dwarf Galaxies in the Virgo Cluster: H I and *IRAS* Data and Upper Limits on Proto–Dwarf Galaxies. *G. Lyle Hoffman, George Helou, E. E. Salpeter, & B. Murray Lewis.* 339, 812, 61-G4 (1989)

Neutral Hydrogen Detection Survey of Dwarf Galaxies. II. Faint Virgo Dwarfs and a Field Sample. *G. Lyle Hoffman, Hayes L. Williams, E. E. Salpeter, Allan Sandage, & Bruno Binggeli.* 71, 701, 46-B1 (1989)

Identifying Galaxies in the Zone of Avoidance. *N. Y. Lu, M. W. Dow, J. R. Houck, E. E. Salpeter, & B. M. Lewis.* 357, 388, 117-D7 (1990)

SALPETER, EDWIN E. H I Emission-Absorption Studies with High-Velocity Resolution. *Sean W. J. Colgan, Edwin E. Salpeter, & Yervant Terzian.* 328, 275, 65-A7 (1988)

Cyclotron Line Resonant Transfer Through Neutron Star Atmospheres. *John C. L. Wang, Ira M. Wasserman, & Edwin E. Salpeter.* 68, 735, 35-A1 (1988)

Arecibo Emission-Absorption Observations of Galactic OH. *Sean W. J. Colgan, Edwin E. Salpeter, & Yervant Terzian.* 336, 231, 4-A1 (1989)

Cyclotron Line Features from Neutron Star Atmospheres. *John C. L. Wang, Ira M. Wasserman, & Edwin E. Salpeter.* 338, 343, 37-C2 (1989)

Sporadic Mass Loss, Spin-down, and Element Redistribution in Young Disk Galaxies. *Jane C. Charlton & Edwin E. Salpeter.* 346, 101, 167-C5 (1989)

The Deceleration of Infalling Plasma in Magnetized Neutron Star Atmospheres: Nonisothermal Atmospheres. *Guy Miller, Ira Wasserman, & Edwin E. Salpeter.* 346, 405, 171-B4 (1989)

H I Absorption Limits and Emission Mapping for High-Velocity Clouds. *Sean W. J. Colgan, Edwin E. Salpeter, & Yervant Terzian.* 351, 503, 46-C10 (1990)

SALTER, C. J. Filled-Aperture Maps of Selected H II Regions at 3.5 Millimeters. *M. A. Gordon, P. R. Jewell, M. A. Kaftan-Kassim, & C. J. Salter.* 308, 288, 111-B12 (1986)

Flux Densities of Ultracompact H II Regions at 3 Millimeters. *Douglas O. S. Wood, E. Churchwell, & C. J. Salter.* 325, 694, 28-B10 (1988)

84 Gigahertz Observations of Five Crab-like Supernova Remnants. *C. J. Salter, S. P. Reynolds, D. E. Hogg, J. M. Payne, & P. J. Rhodes.* 338, 171, 35-B4 (1989)

SALUCCI, PAOLO. Dark Matter in Spiral Galaxies. *Massimo Persic & Paolo Salucci.* 355, 44, 87-E5 (1990)

Rotating Disk Galaxies: Yet Another Case for Dark Matter. *Massimo Persic & Paolo Salucci.* 356, 83, 100-B1 (1990)

Statistics of Matter Distribution from Halo Dynamics. *Silvio A. Bonometto, Stefano Borgani, Massimo Persic, & Paolo Salucci.* 356, 350, 104-E12 (1990)

SALVADORI, LUCIANO. Padova 1: A Heavily Obscured Seyfert Galaxy in Aquila. *Franco Sabbadin, Enrico Cappellaro, Luciano Salvadori, & Massimo Turatto.* 347, L5, 189-B5 (1989)

SALVADOR-SOLÉ, E. Three-dimensional Morphological Segregation in Rich Clusters of Galaxies. *E. Salvador-Solé, M. Sanromà, & J. J. Rdz. Jordana.* 337, 636, 27-A1 (1989)

SALVADOR-SOLÉ, EDUARD. Determination of the Distribution of Galaxies in Groups and Clusters by Correlation Analysis. *Manuel Sanromà & Eduard Salvador-Solé.* 342, 17, 101-B12 (1989)

Study of Galaxy Structures by Correlation Analysis. *Eduard Salvador-Solé & Manuel Sanromà.* 345, 660, 159-A1 (1989)

Evidence for a Large-Scale Environmental Dependence of Galaxy Morphology in Clusters. *Manuel Sanromà & Eduard Salvador-Solé.* 360, 16, 145-C4 (1990)

SALVATI, M. Radio Supernovae. *K. W. Weiler, R. A. Sramek, N. Panagia, J. M. van der Hulst, & M. Salvati.* 301, 790, 24-C5 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

Optical and X-Ray Radiation from Fast Pulsars: Effects of Duty Cycle and Spectral Shape. *F. Pacini & M. Salvati.* 321, 447, 127-A12 (1987)

Observation of the Vela Pulsar, PSR 0833−45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)

SALVATI, MARCO. X-Rays from SN 1987A: Beneath the Radioactive Layers. *Rino Bandiera, Franco Pacini, & Marco Salvati.* 344, 844, 144-F10 (1989)

SALZER, JOHN J. Observations of a Complete Sample of Emission-Line Galaxies. I. CCD Imaging and Spectroscopy of Galaxies in UM Lists IV and V. *John J. Salzer, Gordon M. MacAlpine, & Todd A. Boroson.* 70, 447, 25-B1 (1989)

Observations of a Complete Sample of Emission-Line Galaxies. II. Properties of the UM Survey Galaxies. *John J. Salzer, Gordon M. MacAlpine, & Todd A. Boroson.* 70, 479, 25-D6 (1989)

Observations of a Complete Sample of Emission-Line Galaxies. III. Spatial and Luminosity Distributions of the UM Galaxies. *John J. Salzer.* 347, 152, 184-A9 (1989)

The Relative Spatial Distributions of High- and Low-Luminosity Galaxies toward Coma. *John J. Salzer, Margaret Murray Hanson, & Giuseppe Gavazzi.* 353, 39, 62-E7 (1990)

SAMPSON, DOUGLAS H. Collision Rates for Excitation of Helium-like Ions with Inclusion of Resonance Effects. *Hong-Lin Zhang & Douglas H. Sampson.* 63, 487, 8-D5 (1987)

Semiempirical Formulae for Electron Impact Excitation and Ionization of Hydrogenic Ions. *Douglas H. Sampson & Hong-Lin Zhang.* 335, 516, 176-E7 (1988)

SÁNCHEZ-SAAVEDRA, M. L. A Theoretical Steady State Model for the Distribution of Gas and Magnetic Field in M31 and in Our Galaxy. *E. Battaner & M. L. Sánchez-Saavedra.* 302, 450, 33-B8 (1986)

The Magnetic Field Profiles of NGC 7331, NGC 2841, and NGC 6946: A Theoretical Model. *E. Battaner, E. Florido, & M. L. Sánchez-Saavedra.* 331, 116, 107-C8 (1988)

SANCISI, R. H I Gas near the Giant Elliptical Galaxy NGC 4472. *R. Sancisi, N. Thonnard, & R. D. Ekers.* 315, L39, 45-D8 (1987)

SANDAGE, A. H I Detection Survey of a Complete Magnitude-limited Sample of Dwarf Irregular Galaxies in the Virgo Cluster Area. *G. Lyle Hoffman, George Helou, E. E. Salpeter, John Glosson, & A. Sandage.* 63, 247, 4-A5 (1987)

SANDAGE, ALLAN. The Redshift-Distance Relation. IX. Perturbation of the Very Nearby Velocity Field by the Mass of the Local Group. *Allan Sandage.* 307, 1, 95-A7 (1986)

The Redshift-Distance Relation. IXa. Reinterpretation of the Local Group Deceleration Data Emphasizing the Kahn-Woltjer Mass Determination. *Allan Sandage.* 317, 557, 72-C1 (1987)

The Hubble Constant from Pritchet and van den Bergh's Nova Distance to the Virgo Cluster. *Allan Sandage & G. A. Tammann.* 328, 1, 62-A7 (1988)

A Case for $H_0 = 42$ and $\Omega_0 = 1$ Using Luminous Spiral Galaxies and the Cosmological Time Scale Test. *Allan Sandage.* 331, 583, 115-C1 (1988)

The Case for $H_0 \cong 55$ from the 21 Centimeter Line Width–Absolute Magnitude Relation for Field Galaxies. *Allan Sandage.* 331, 605, 115-D9 (1988)

The Spatial Distributions and Intrinsic Shapes of Dwarf Elliptical Galaxies in the Virgo and Fornax Clusters. *Henry C. Ferguson & Allan Sandage.* 346, L53, 181-B4 (1989)

Neutral Hydrogen Detection Survey of Dwarf Galaxies. II. Faint Virgo Dwarfs and a Field Sample. *G. Lyle Hoffman, Hayes L. Williams, E. E. Salpeter, Allan Sandage, & Bruno Binggeli.* 71, 701, 46-B1 (1989)

The Surface Brightness Test for the Expansion of the Universe. I. Properties of Petrosian Metric Diameters. *Allan Sandage & Jean-Marc Perelmuter.* 350, 481, 32-C1 (1990)

The Vertical Height of the Horizontal Branch: The Range in the Absolute Magnitudes of RR Lyrae Stars in a Given Globular Cluster. *Allan Sandage.* 350, 603, 33-F3 (1990)

The Oosterhoff Period Effect: Luminosities of Globular Cluster Zero-Age Horizontal Branches and Field RR Lyrae Stars as a Function of Metallicity. *Allan Sandage.* 350, 631, 34-A6 (1990)

The Absolute Magnitudes of RR Lyrae Stars and the Age of the Galactic Globular Cluster System. *Allan Sandage & Carla Cacciari.* 350, 645, 34-B7 (1990)

Periods and Light Curves of 16 Cepheid Variables in IC 1613 Not Completed by Baade. *George Carlson & Allan Sandage.* 352, 587, 58-C8 (1990)

The Surface Brightness Test for the Expansion of the Universe. II. Radii, Surface Brightness, and Absolute Magnitude Correlations for Nearby E Galaxies. *Allan Sandage & Jean-Marc Perelmuter.* 361, 1, 157-B1 (1990)

Steps toward the Hubble Constant. IX. The Cosmic Value of H_0 Freed from All Local Velocity Anomalies. *Allan Sandage & G. A. Tammann.* 365, 1, 206-B1 (1990)

SANDELL, G. Submillimeter Measurements of T Tauri and FU Orionis Stars. *David A. Weintraub, G. Sandell, & W. D. Duncan.* 340, L69, 83-C10 (1989)

SANDELL, GÖRAN. The Geometry of Anisotropic CO Outflows. *René Liseau & Göran Sandell.* 304, 459, 58-G9 (1986)

Detection of Shock-enhanced CH Emission in Bipolar Outflows. *Göran Sandell, Loris Magnani, & Elizabeth Lada.* 329, 920, 87-B10 (1988)

CH Observations of Diffuse Molecular Clouds. *Loris Magnani, Elizabeth A. Lada, Göran Sandell, & Leo Blitz.* 339, 244, 53-A4 (1989)

SANDERS, D. B. Massachusetts–Stony Brook Galactic Plane CO Survey. I. (*b*,*V*) Maps of the First Galactic Quadrant. *D. B. Sanders, D. P. Clemens, N. Z. Scoville, & P. M. Solomon.* 60, 1, 1-A3 (1986)

Massachusetts–Stony Brook Galactic Plane CO Survey. II. (*l*,*V*) Maps of the First Galactic Quadrant. *D. P. Clemens, D. B. Sanders, N. Z. Scoville, & P. M. Solomon.* 60, 297, 4-A5 (1986)

The Massachusetts–Stony Brook Galactic Plane CO Survey: Statistical Clustering Properties of Molecular Cloud Cores. *A. R. Rivolo, P. M. Solomon, & D. B. Sanders.* 301, L19, 20-C5 (1986)

Distributions of ^{13}CO Emission in the Disks of Late-Type Spiral Galaxies. *Judith S. Young & D. B. Sanders.* 302, 680, 38-B1 (1986)

High-Resolution Mapping of Molecular Outflows in NGC 2071, W49, and NGC 7538. *N. Z. Scoville, A. I. Sargent, D. B. Sanders, M. J. Claussen, C. R. Masson, K. Y. Lo, & T. G. Phillips.* 303, 416, 45-F2 (1986)

The Luminosity Function and Space Density of the Most Luminous Galaxies in the *IRAS* Survey. *B. T. Soifer, D. B. Sanders, G. Neugebauer, G. E. Danielson, Carol J. Lonsdale, B. F. Madore, & S. E. Persson.* 303, L41, 53-C5 (1986)

Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, J. S. Young, B. T. Soifer, F. P. Schloerb, W. L. Rice, & G. E. Danielson.* 305, L45, 80-B12 (1986)

The Physical and Kinematic Structures of Molecular Clouds. I. Model. *John Kwan & D. B. Sanders.* 309, 783, 129-G7 (1986)

High-Mass Star Formation Due to Cloud-Cloud Collisions. *N. Z. Scoville, D. B. Sanders, & D. P. Clemens.* 310, L77, 145-B4 (1986)

Millimeter Interferometry of the Molecular Gas in Arp 220. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, S. L. Scott, & K. Y. Lo.* 311, L47, 160-C1 (1986)

Detection of CO(1 → 0) Emission and Optical Imaging of the Seyfert Galaxy/QSO Markarian 231. *D. B. Sanders, J. S. Young, N. Z. Scoville, B. T. Soifer, & G. E. Danielson.* 312, L5, 7-A8 (1987)

Compact Molecular Gas Structure in the Interacting Galaxy Pair Arp 299 (IC 694–NGC 3690). *A. I. Sargent, D. B. Sanders, N. Z. Scoville, & B. T. Soifer.* 312, L35, 14-B1 (1987)

Where Massive Stars Form: Associated Radio H II Regions and CO Clouds in the Northern Milky Way. *W. H. Waller, D. P. Clemens, D. B. Sanders, & N. Z. Scoville.* 314, 397, 32-E4 (1987)

Molecular Clouds and Cloud Cores in the Inner Galaxy. *N. Z. Scoville, Min Su Yun, D. P. Clemens, D. B. Sanders, & W. H. Waller.* 63, 821, 13-G12 (1987)

The *IRAS* Bright Galaxy Sample. II. The Sample and Luminosity Function. *B. T. Soifer, D. B. Sanders, B. F. Madore, G. Neugebauer, G. E. Danielson, J. H. Elias, Carol J. Lonsdale, & W. L. Rice.* 320, 238, 110-F7 (1987)

OH Megamasers in High-Luminosity IRAS Galaxies. *I. F. Mirabel & D. B. Sanders.* 322, 688, 147-C8 (1987)

CO Emission from Centaurus A. *T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, R. J. Howard, C. R. Masson, D. B. Sanders, B. Veidt, & K. Young.* 322, L73, 152-B8 (1987)

Aperture Synthesis Mapping of Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, A. I. Sargent, & B. T. Soifer.* 324, L55, 18-B13 (1988)

Detection of H I, OH, CO, and Optical Imaging of the Distant Galaxy IRAS 12112+0305. *I. F. Mirabel, I. Kazès, & D. B. Sanders.* 324, L59, 18-C6 (1988)

Ultraluminous Infrared Galaxies and the Origin of Quasars. *D. B. Sanders, B. T. Soifer, J. H. Elias, B. F. Madore, K. Matthews, G. Neugebauer, & N. Z. Scoville.* 325, 74, 19-G6 (1988)

The Large-Scale Distribution of Molecular Gas in the First Galactic Quadrant. *D. P. Clemens, D. B. Sanders, & N. Z. Scoville.* 327, 139, 48-E1 (1988)

The Stellar Bar in NGC 1068. *N. Z. Scoville, K. Matthews, D. P. Carico, & D. B. Sanders.* 327, L61, 61-C7 (1988)

Warm Ultraluminous Galaxies in the *IRAS* Survey: The Transition from Galaxy to Quasar? *D. B. Sanders, B. T. Soifer, J. H. Elias, G. Neugebauer, & K. Matthews.* 328, L35, 74-D1 (1988)

Observations of Individual Star-forming Regions in the Nucleus of M33. *Christine D. Wilson, Nick Scoville, Wendy L. Freedman, Barry F. Madore, & D. B. Sanders.* 333, 611, 146-F8 (1988)

21 Centimeter Survey of Luminous Infrared Galaxies. *I. F. Mirabel & D. B. Sanders.* 335, 104, 171-D5 (1988)

Detection of Abundant Molecular Gas in the UV-Excess Quasar Markarian 1014. *D. B. Sanders, N. Z. Scoville, & B. T. Soifer.* 335, L1, 177-A6 (1988)

Molecular Gas in the Powerful Radio Galaxies Perseus A and 4C 12.50. *I. F. Mirabel, D. B. Sanders, & I. Kazès.* 340, L9, 75-D1 (1989)

The Ratio of Molecular to Atomic Gas in Infrared Luminous Galaxies. *I. F. Mirabel & D. B. Sanders.* 340, L53, 83-B5 (1989)

Aperture Synthesis of CO Emission in Extremely Luminous Infrared Galaxies. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, & C. G. Tinney.* 345, L25, 157-C2 (1989)

CO(2→1) Emission from the Interacting Galaxy Pair NGC 3256. *A. I. Sargent, D. B. Sanders, & T. G. Phillips.* 346, L9, 173-B1 (1989)

Continuum Energy Distributions of Quasars: Shapes and Origins. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 347, 29, 182-D7 (1989)

CO Aperture Synthesis of NGC 4038/39 (Arp 244). *S. A. Stanford, A. I. Sargent, D. B. Sanders, & N. Z. Scoville.* 349, 492, 21-D1 (1990)

The Near-Infrared Morphology of Ultraluminous Infrared Galaxies. *David P. Carico, James R. Graham, K. Matthews, T. D. Wilson, B. T. Soifer, G. Neugebauer, & D. B. Sanders.* 349, L39, 24-B1 (1990)

Continuum Energy Distributions of Quasars: Shapes and Origins: Erratum. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 357, 291, 114-F6 (1990) (Orig. paper in 347, 29, 182-D7 (1989))

A 1.49 GHz Atlas of the *IRAS* Bright Galaxy Sample. *J. J. Condon, G. Helou, D. B. Sanders, & B. T. Soifer.* 73, 359, 23-B1 (1990)

Molecular Gas in Intermediate Luminosity *IRAS* Galaxies. *C. G. Tinney, N. Z. Scoville, D. B. Sanders, & B. T. Soifer.* 362, 473, 176-D5 (1990)

SANDERS, W. T. Observations of the Soft X-Ray Diffuse Background at 0.1 keV. *J. J. Bloch, K. Jahoda, M. Juda, D. McCammon, W. T. Sanders, & S. L. Snowden.* 308, L59, 120-F8 (1986)

A Model for the Distribution of Material Generating the Soft X-Ray Background. *S. L. Snowden, D. P. Cox, D. McCammon, & W. T. Sanders.* 354, 211, 76-E7 (1990)

SANDFORD, MAXWELL T., II. Star Formation in Colliding Gas Flows. *James H. Hunter, Jr., Maxwell T. Sandford II, Rodney W. Whitaker, & Richard I. Klein.* 305, 309, 70-D4 (1986)

SANDFORD, S. A. Laboratory Studies of the Infrared Spectral Properties of CO in Astrophysical Ices. *S. A. Sandford, L. J. Allamandola, A. G. G. M. Tielens, & G. J. Valero.* 329, 498, 80-E10 (1988)

Infrared Emission from Comets. *K. S. Krishna Swamy, S. A. Sandford, L. J. Allamandola, F. C. Witteborn, & J. D. Bregman.* 340, 537, 73-G11 (1989)

New Emission Features in the 11–13 Micron Region and Their Relationship to Polycyclic Aromatic Hydrocarbons. *F. C. Witteborn, S. A. Sandford, J. D. Bregman, L. J. Allamandola, M. Cohen, D. H. Wooden, & A. L. Graps.* 341, 270, 87-C5 (1989)

The Discovery of a New Infrared Emission Feature at 1905 Wavenumbers (5.25 Microns) in the Spectrum of BD +30°3639 and Its Relation to the Polycyclic Aromatic Hydrocarbon Model. *L. J. Allamandola, J. D. Bregman, S. A. Sandford, A. G. G. M. Tielens, F. C. Witteborn, D. H. Wooden, & D. Rank.* 345, L59, 157-F1 (1989)

The Physical and Infrared Spectral Properties of CO_2 in Astrophysical Ice Analogs. *S. A. Sandford & L. J. Allamandola.* 355, 357, 91-C9 (1990)

Hydrocarbon Emission Features in the Infrared Spectra of Warm Supergiants. *R. H. Buss, Jr., M. Cohen, A. G. G. M. Tielens, M. W. Werner, J. D. Bregman, F. C. Witteborn, D. Rank, & S. A. Sandford.* 365, L23, 212-C6 (1990)

SANDHAS, W. Equations of Motion Using the Dynamical Evolution of the Runge-Lenz Vector. *E. A. Bartnik, H. Haberzettl, & W. Sandhas.* 334, 517, 160-E8 (1988)

SANDIE, W. G. High-Resolution Observations of Gamma-Ray Line Emission from SN 1987A. *W. G. Sandie, G. H. Nakano, L. F. Chase, Jr., G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, & G. P. Lasche.* 334, L91, 169-E2 (1988)

SANDLIN, G. D. The High-Resolution Solar Spectrum, 1175–1710 Å. *G. D. Sandlin, J.-D. F. Bartoe, G. E. Brueckner, R. Tousey, & M. E. VanHoosier.* 61, 801, 29-A4 (1986)

SANDQVIST, AA. Lunar Occultation of the Galactic Center at 2.2 Microns. *D. J. Adams, E. E. Becklin, R. F. Jameson, A. J. Longmore, Aa. Sandqvist, & E. Valentijn.* 327, L65, 61-C11 (1988)

SANDULEAK, N. The Case Low-Dispersion Northern Sky Survey. III. *Peter Pesch & N. Sanduleak.* 60, 543, 8-B4 (1986)

The Case Low-Dispersion Northern Sky Survey. IV. Galaxies in the Bootes Void Region. *N. Sanduleak & Peter Pesch.* 63, 809, 13-F6 (1987)

The Case Low-Dispersion Northern Sky Survey. V. *Peter Pesch & N. Sanduleak.* 66, 297, 6-A1 (1988)

The Case Low-Dispersion Northern Sky Survey. VI. A–F Stars in a Region near the North Galactic Pole. *N. Sanduleak.* 66, 309, 6-C1 (1988)

The Case Low-Dispersion Northern Sky Survey. VII. Late-Type Stars. *N. Sanduleak & Peter Pesch.* 66, 387, 8-D1 (1988)

The Case Low-Dispersion Northern Sky Survey. VIII. A Region Centered in Southern Bootes. *Peter Pesch & N. Sanduleak.* 70, 163, 19-C3 (1989)

The Case Low-Dispersion Northern Sky Survey. IX. A Region Centered in Northern Bootes. *N. Sanduleak & Peter Pesch.* 70, 173, 19-E1 (1989)

The Case Low-Dispersion Northern Sky Survey. X. A–F Stars in a Region at Intermediate Galactic Latitude Primarily in Lynx and Leo Minor. *Peter Pesch & N. Sanduleak.* 71, 549, 43-D1 (1989)

An Objective-Prism Survey for Outlying Blue Horizontal-Branch Stars in Globular Clusters. *N. Sanduleak.* 71, 713, 46-C11 (1989)

The Case Low-Dispersion Northern Sky Survey. XI. A Region near the North Galactic Pole Including SA 57. *N. Sanduleak & Peter Pesch.* 72, 291, 5-G9 (1990)

A Multiwavelength Study of the Carlson-Henize Sample of Early-Type Galactic Extreme Emission-Line Stars. *Steven N. Shore, Douglas N. Brown, B. W. Bopp, C. R. Robinson, N. Sanduleak, & P. D. Feldman.* 73, 461, 24-F11 (1990)

SANG, YEMING. Ohmic Decay of Crustal Neutron Star Magnetic Fields. *Yeming Sang & G. Chanmugam.* 323, L61, 158-E2 (1987)

Pulsar Statistics with Nonexponential Magnetic Field Decay. *Yeming Sang & G. Chanmugam.* 363, 597, 191-E9 (1990)

SANROMÀ, M. Three-dimensional Morphological Segregation in Rich Clusters of Galaxies. *E. Salvador-Solé, M. Sanromà, & J. J. Rdz. Jordana.* 337, 636, 27-A1 (1989)

SANROMÀ, MANUEL. Determination of the Distribution of Galaxies in Groups and Clusters by Correlation Analysis. *Manuel Sanromà & Eduard Salvador-Solé.* 342, 17, 101-B12 (1989)

Study of Galaxy Structures by Correlation Analysis. *Eduard Salvador-Solé & Manuel Sanromà.* 345, 660, 159-A1 (1989)

Evidence for a Large-Scale Environmental Dependence of Galaxy Morphology in Clusters. *Manuel Sanromà & Eduard Salvador-Solé.* 360, 16, 145-C4 (1990)

SANSONETTI, CRAIG J. Wavelengths and Intensities of a Platinum/Neon Hollow Cathode Lamp in the Region 1100–4000 Å. *Joseph Reader, Nicolo Acquista, Craig J. Sansonetti, & Jean E. Sansonetti.* 72, 831, 16-G11 (1990)

SANSONETTI, JEAN E. Wavelengths and Intensities of a Platinum/Neon Hollow Cathode Lamp in the Region 1100–4000 Å. *Joseph Reader, Nicolo Acquista, Craig J. Sansonetti, & Jean E. Sansonetti.* 72, 831, 16-G11 (1990)

SANTANGELO, PAOLO. The Dynamical Evolution of Clusters of Galaxies. *Alfonso Cavaliere, Paolo Santangelo, Giuseppe Tarquini, & Nicola Vittorio.* 305, 651, 76-A7 (1986)

SANTIAGO, B. X. On the Statistical Properties of the Galaxy Distribution. *Paulo S. Pellegrini, C. N. A. Willmer, L. Nicolaci da Costa, & B. X. Santiago.* 350, 95, 26-B9 (1990)

Segregation Properties of Galaxies. *B. X. Santiago & L. Nicolaci da Costa.* 362, 386, 175-C8 (1990)

SANTOS, N. O. Nonadiabatic Gravitational Collapse. *A. K. G. de Oliveira & N. O. Santos.* 312, 640, 10-A1 (1987)

Friedmann-like Collapsing Model of a Radiating Sphere with Heat Flow. *C. A. Kolassis, N. O. Santos, & D. Tsoubelis.* 327, 755, 56-G9 (1988)

Density Constraints on Local Inhomogeneity in Cosmology. *J. Eisenstaedt & N. O. Santos.* 337, 601, 26-E4 (1989)

Friedmann-like Collapsing Radiating Sphere. *R. Chan, J. P. S. Lemos, N. O. Santos, & J. A. de Fteitas Pacheco.* 342, 976, 114-D1 (1989)

Diffusion Processes in General Relativistic Radiating Spheres. *W. Barreto, L. Herrera, & N. O. Santos.* 344, 158, 135-A7 (1989)

SANZ, J. L. Proper Motion Effects on the Timing of an Orbiting Pulsar. *M. Portilla & J. L. Sanz.* 309, 110, 121-B14 (1986)

Cluster Correlations: A Test for Biased Scenarios. *E. Martínez-González & J. L. Sanz.* 324, 653, 10-D13 (1988)

The Galaxy Luminosity Function and the Morphological Type. *E. Martínez-González & J. L. Sanz.* 332, 89, 124-B10 (1988)

Rings and Spots in the Structure of the Cosmic Background Radiation. *F. Argüeso, E. Martínez-González, & J. L. Sanz.* 336, 69, 1-G11 (1989)

Large-Scale Streaming Motions and Microwave Background Anisotropies. *E. Martínez-Gonzáles & J. L. Sanz.* 347, 11, 182-C1 (1989)

Anisotropies in the Microwave Sky Due to Nonlinear Structures. *E. Martínez-González, J. L. Sanz, & J. Silk.* 355, L5, 92-B1 (1990)

SANZ, JOSÉ L. On the Timing Formula for Isolated Pulsars: The Case of Bunching Emission. *Xavier Barcons, Miquel Portilla, & José L. Sanz.* 331, 397, 110-F1 (1988)

SAPERSTEIN, D. D. Nitrogenated Amorphous Carbons: A Potential Source of Diffuse Interstellar Infrared Emission. *D. D. Saperstein, S. Metin, & J. H. Kaufman.* 342, L47, 109-D11 (1989)

SAPRU, M. L. Estimate from Gulmarg of PeV Photon Flux from Cygnus X-3 and Its Relevance. *C. L. Bhat, M. L. Sapru, & H. Razdan.* 306, 587, 91-A7 (1986)

SARAJEDINI, ATA. A New Age Diagnostic Applied to the Globular Clusters NGC 288 and NGC 362. *Ata Sarajedini & Pierre Demarque.* 365, 219, 208-G9 (1990)

SARAJEDINI, ATAOLLAH. Insensitivity of Solar p-Mode Frequencies to Changes in the Helium Abundance. *D. B. Guenther & Ataollah Sarajedini.* 327, 993, 59-F9 (1988)

SARAZIN, C. L. The X-Ray Spectrum of SN 1006. *A. J. S. Hamilton, C. L. Sarazin, & A. E. Szymkowiak.* 300, 698, 10-F13 (1986)

The X-Ray Spectrum of Tycho. *A. J. S. Hamilton, C. L. Sarazin, & A. E. Szymkowiak.* 300, 713, 11-A1 (1986)

SARAZIN, CRAIG L. SN 1985f: Death of a Wolf-Rayet Star. *Mitchell C. Begelman & Craig L. Sarazin.* 302, L59, 40-E8 (1986)

Narrow-Angle Tail Radio Sources and the Distribution of Galaxy Orbits in Abell Clusters. *Christopher P. O'Dea, Craig L. Sarazin, & Frazer N. Owen.* 316, 113, 51-C1 (1987)

Star Formation in X-Ray Cluster Cooling Flows. *Raymond E. White III & Craig L. Sarazin.* 318, 612, 87-E9 (1987)

Determining Star Formation Rates in X-Ray Cluster Cooling Flows. *Raymond E. White III & Craig L. Sarazin.* 318, 621, 87-F5 (1987)

Numerical Models of Star Formation in X-Ray Cluster Cooling Flows. *Raymond E. White III & Craig L. Sarazin.* 318, 629, 87-F14 (1987)

Steady State Cooling Flow Models for Normal Elliptical Galaxies. *Craig L. Sarazin & Raymond E. White III.* 320, 32, 108-C11 (1987)

Cooling Flows and the Stability of Radio Jets. *Noam Soker & Craig L. Sarazin.* 327, 66, 47-F7 (1988)

Numerical Simulations of the Bending of Narrow-Angle–Tail Radio Jets by Ram Pressure or Pressure Gradients. *Noam Soker, Christopher P. O'Dea, & Craig L. Sarazin.* 327, 627, 55-E4 (1988)

The X-Ray Emission of Normal Elliptical Galaxies: Steady State Cooling Flow Models. *Craig L. Sarazin & Raymond E. White III.* 331, 102, 107-B6 (1988)

Star Formation in the Cooling Flows of M87/Virgo and NGC 1275/Perseus. *Raymond E. White III & Craig L. Sarazin.* 335, 688, 180-B3 (1988)

Using X-Ray Absorption Lines to Determine the Distances to Clusters of Galaxies. *Craig L. Sarazin.* 345, 12, 149-B8 (1989)

Steady State Cooling Flow Models with Gas Loss for Normal Elliptical Galaxies. *Craig L. Sarazin & Gregory A. Ashe.* 345, 22, 149-C6 (1989)

Charge Transfer and X-Ray Emission from Supernova Remnants. *Michael W. Wise & Craig L. Sarazin.* 345, 384, 154-A1 (1989)

The Role of Magnetic Fields in Cluster Cooling Flows. *Noam Soker & Craig L. Sarazin.* 348, 73, 2-A1 (1990)

Interaction of Planetary Nebulae with the Interstellar Medium. *Kazimierz J. Borkowski, Craig L. Sarazin, & Noam Soker.* 360, 173, 147-B11 (1990)

Electron Scattering and the Distances to Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 363, 344, 188-D1 (1990)

Optical Coronal Emission Lines from Equilibrium and Cooling Plasmas. *Christopher M. Graney & Craig L. Sarazin.* 364, 561, 203-B3 (1990)

SARGENT, A. I. High-Resolution Mapping of Molecular Outflows in NGC 2071, W49, and NGC 7538. *N. Z. Scoville, A. I. Sargent, D. B. Sanders, M. J. Claussen, C. R. Masson, K. Y. Lo, & T. G. Phillips.* 303, 416, 45-F2 (1986)

Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)

Small-Scale Structure of the Circumstellar Gas of HL Tauri and R Monocerotis. *S. Beckwith, A. I. Sargent, N. Z. Scoville, C. R. Masson, B. Zuckerman, & T. G. Phillips.* 309, 755, 129-E3 (1986)

Millimeter Interferometry of the Molecular Gas in Arp 220. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, S. L. Scott, & K. Y. Lo.* 311, L47, 160-C1 (1986)

Compact Molecular Gas Structure in the Interacting Galaxy Pair Arp 299 (IC 694–NGC 3690). *A. I. Sargent, D. B. Sanders, N. Z. Scoville, & B. T. Soifer.* 312, L35, 14-B1 (1987)

CO Maps of the OMC-1 Outflow. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 319, 446, 98-A11 (1987)

A Possible Protostar near HH 7–11. *E. N. Grossman, C. R. Masson, A. I. Sargent, N. Z. Scoville, S. Scott, & D. P. Woody.* 320, 356, 112-A1 (1987)

Aperture Synthesis Mapping of Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, A. I. Sargent, & B. T. Soifer.* 324, L55, 18-B13 (1988)

CO Maps of the OMC-1 Outflow: Erratum. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 446, 98-A11 (1987))

Interferometric Observations of 1.4 Millimeter Continuum Sources. *D. P. Woody, S. L. Scott, N. Z. Scoville, L. G. Mundy, A. I. Sargent, S. Padin, C. G. Tinney, & C. D. Wilson.* 337, L41, 25-D5 (1989)

Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at $\gamma = 1.4$ Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)

Aperture Synthesis of CO Emission in Extremely Luminous Infrared Galaxies. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, & C. G. Tinney.* 345, L25, 157-C2 (1989)

CO(2→1) Emission from the Interacting Galaxy Pair NGC 3256. *A. I. Sargent, D. B. Sanders, & T. G. Phillips.* 346, L9, 173-B1 (1989)

CO Aperture Synthesis of NGC 4038/39 (Arp 244). *S. A. Stanford, A. I. Sargent, D. B. Sanders, & N. Z. Scoville.* 349, 492, 21-D1 (1990)

SARGENT, ANNEILA I. Kinematics of the Circumstellar Gas of HL Tauri and R Monocerotis. *Anneila I. Sargent & Steven Beckwith.* 323, 294, 156-C5 (1987)

Small-Scale Structure of the Circumstellar Gas around L1551 IRS 5. *Anneila I. Sargent, Steven Beckwith, Jocelyn Keene, & Colin Masson.* 333, 936, 150-E6 (1988)

Tomographic Imaging of HL Tauri. *Steven V. W. Beckwith, Anneila I. Sargent, C. D. Koresko, & D. A. Weintraub.* 343, 393, 123-A4 (1989)

SARGENT, D. Magnetic Field Evolution in White Dwarfs. *C. E. Wendell, H. M. Van Horn, & D. Sargent.* 313, 284, 18-A12 (1987)

SARGENT, W. L. W. I Zw 18 and the Existence of Very Metal Poor Blue Compact Dwarf Galaxies. *D. Kunth & W. L. W. Sargent.* 300, 496, 8-E6 (1986)

High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

The Southern Sky Redshift Survey. *L. Nicolaci da Costa, P. S. Pellegrini, W. L. W. Sargent, J. Tonry, M. Davis, A. Meiksin, David W. Latham, J. W. Menzies, & I. A. Coulson.* 327, 544, 54-F1 (1988)

A Limit on the Anisotropy of the Microwave Background Radiation on Arcminute Scales. *A. C. S. Readhead, C. R. Lawrence, S. T. Myers, W. L. W. Sargent, H. E. Hardebeck, & A. T. Moffet.* 346, 566, 174-E1 (1989)

SARGENT, WALLACE L. W. The Effect of the Lyman-Alpha Forest on the Ultraviolet Continua of Very High Redshift Quasars. *Charles C. Steidel & Wallace L. W. Sargent.* 313, 171, 16-G7 (1987)

A New Upper Limit on the Density of Generally Distributed Intergalactic Neutral Hydrogen. *Charles C. Steidel & Wallace L. W. Sargent.* 318, L11, 85-A13 (1987)

High-Resolution Spectra of 24 Low-Redshift QSOs: The Properties of Mg II Absorption Systems. *David Tytler, A. Boksenberg, Wallace L. W. Sargent, Peter Young, & Daniel Kunth.* 64, 667, 27-B8 (1987)

Absorption in the Wide QSO Pair Tololo 1037–2704 and Tololo 1038–2712: Evidence for a Specially Aligned Supercluster at $z = 2$? *Wallace L. W. Sargent & Charles C. Steidel.* 322, 142, 139-D11 (1987)

A Detailed Study of the Emission Lines in the Seyfert 1 Nucleus of M81. *Alexei V. Filippenko & Wallace L. W. Sargent.* 324, 134, 2-E3 (1988)

QSO Absorption Lines and the Time Scale for Initial Heavy-Element Enrichment in Galaxies. *Charles C. Steidel, Wallace L. W. Sargent, & A. Boksenberg.* 333, L5, 144-A9 (1988)

Mg II Absorption in the Spectra of High and Low Redshift QSOs. *Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 334, 22, 154-C3 (1988)

C IV Absorption in a New Sample of 55 QSOs: Evolution and Clustering of the Heavy-Element Absorption Redshifts. *Wallace L. W. Sargent, A. Boksenberg, & Charles C. Steidel.* 68, 539, 31-D1 (1988)

A Survey of Lyman-Limit Absorption in the Spectra of 59 High-Redshift QSOs. *Edward B. Jenkins, Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 69, 703, 12-B1 (1989)

Discovery of an Extremely Low Luminosity Seyfert 1 Nucleus in the Dwarf Galaxy NGC 4395. *Alexei V. Filippenko & Wallace L. W. Sargent.* 342, L11, 109-B1 (1989)

QSO Heavy Element Absorption Systems and the Nature of the Metagalactic Ionizing Flux at High Redshift. *Charles C. Steidel & Wallace L. W. Sargent.* 343, L33, 132-A10 (1989)

Spectroscopic Evidence for Inhomogeneities in the Ejecta of the Type Ib Supernova 1985F. *Alexei V. Filippenko & Wallace L. W. Sargent.* 345, L43, 157-D10 (1989)

The Lyman Limit Absorption System in the Spectrum of PKS 2126–158: Heavy-Element Abundance at High Redshift. *Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 351, 364, 44-D11 (1990)

Absorption Lines in the Spectrum of Q0248+4302 Due to a Foreground Tidal Tail. *Wallace L. W. Sargent & Charles C. Steidel.* 359, L37, 144-A13 (1990)

SARGOOD, D. G. $^{26}Mg(p, n)^{26}Al$ Cross Section Measurements: Erratum. *R. T. Skelton, R. W. Kavanagh, & D. G. Sargood.* 308, 485, 113-D2 (1986) (Orig. paper in 0, 404, 92-C14 (1983))

SARMIENTO G., ANTONIO F. Nonmetric Theories of Gravity and the Gravitational Frequency Shift. *Alan A. Coley & Antonio F. Sarmiento G.* 331, 773, 117-D1 (1988)

SARRIS, E. T. Shock Drift Mechanism for Forbush Decreases. *Andrew F. Cheng, E. T. Sarris, & C. Dodopoulos.* 350, 413, 30-B1 (1990)

SASAKI, M. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)

SASAKI, MISAO. Small-scale Anisotropies in the Microwave Background in a Baryon-dominated Open Universe. *Naoteru Gouda, Misao Sasaki, & Yasushi Suto.* 321, L1, 129-B4 (1987)

Cosmic Microwave Anisotropies and Large-Scale Velocity Fields in Isocurvature Hot Dark Matter Models. *Naoshi Sugiyama, Misao Sasaki, & Kenji Tomita.* 338, L45, 49-B1 (1989)

Evolution of Perturbations in a Baryon-dominated Universe: Gauge-invariant Analysis. *Naoteru Gouda, Misao Sasaki, & Yasushi Suto.* 341, 557, 92-C1 (1989)

Constraints on Universe Models with Cosmological Constant from Cosmic Microwave Background Anisotropy. *Naoshi Sugiyama, Naoteru Gouda, & Misao Sasaki.* 365, 432, 213-D1 (1990)

SASLAW, WILLIAM C. How Relaxed Is the Distribution of Galaxies? *Philippe Crane & William C. Saslaw.* 301, 1, 14-A8 (1986)

Galaxy Clustering and Thermodynamics: Quasi-static Evolution of $b(t)$. *William C. Saslaw.* 304, 11, 54-B2 (1986)

Correlated Statistical Fluctuations and Galaxy Formation. *Yoel Rephaeli & William C. Saslaw.* 309, 13, 120-B4 (1986)

Cloud Models for the Nuclei of Active Galaxies: A Distribution Function Description. *Mark Whittle & William C. Saslaw.* 310, 104, 133-B11 (1986)

New Limits to Bias and the Amount of Dark Matter in the Universe. *William C. Saslaw, H. M. Antia, & S. M. Chitre.* 315, L1, 45-A4 (1987)

Radio Galaxy Jets as Probes of Galactic Structure. *William C. Saslaw & Mark Whittle.* 325, 142, 20-F5 (1988)

Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and N-Body Simulations. *Makoto Itoh, Shogo Inagaki, & William C. Saslaw.* 331, 45, 106-E1 (1988)

Some Properties of a Statistical Distribution Function for Galaxy Clustering. *William C. Saslaw.* 341, 588, 92-E4 (1989)

Structure in the Universe on Scales of 10–100 Megaparsecs: Analysis of a New Deep Radio Survey and of the Abell Cluster Catalog. *Paul H. Coleman & William C. Saslaw.* 353, 354, 68-E1 (1990)

Gravitational Clustering of Galaxies: Comparison of Thermodynamic Theory and N-Body Simulations. II. The Effects of Different Mass Components. *Makoto Itoh, Shogo Inagaki, & William C. Saslaw.* 356, 315, 104-C1 (1990)

The Kinetic Evolution and Velocity Distribution of Gravitational Galaxy Clustering. *William C. Saslaw, S. M. Chitre, Makoto Itoh, & Shogo Inagaki.* 365, 419, 213-C1 (1990)

SASSEEN, T. P. Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

SASSELOV, DIMITAR D. Infrared Spectroscopy of Cepheids: Peculiar Velocity Structure and Its Effect on Radii and Distances. *Dimitar D. Sasselov, John B. Lester, & Michael S. Fieldus.* 337, L29, 25-C7 (1989)

Formaldehyde Mapping of ρ Ophiuchi B1: The Densest Cold Prestellar Core. *Dimitar D. Sasselov & Slavek M. Rucinski.* 351, 578, 47-C7 (1990)

Accurate Relative Temperatures and Reddenings for Cool Stars from C I Lines at 1 Micron. *Dimitar D. Sasselov & John B. Lester.* 360, 227, 147-G3 (1990)

Infrared Spectroscopy of Cepheids. II. Line Profiles from Different Atmospheric Layers. *Dimitar D. Sasselov & John B. Lester.* 362, 333, 173-C7 (1990)

SASTRY, K. V. L. N. The Laboratory Millimeter- and Submillimeter-Wave Spectrum of the First Two Excited Torsional States of $^{13}CH_3OH$. *Todd Anderson, Eric Herbst, Frank C. De Lucia, K. V. L. N. Sastry, & R. M. Lees.* 68, 821, 36-A1 (1988)

SATO, FUMIO. Two Molecular Outflows in L1251. *Fumio Sato & Yasuo Fukui.* 343, 773, 128-G1 (1989)

SATO, H. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

SATO, KATSUHIKO. Supernova Explosions and the Soft Equation of State. *Mariko Takahara & Katsuhiko Sato.* 335, 301, 173-G7 (1988)

On the Origin of Lithium. *Hubert Reeves, Jacques Richer, Katsuhiko Sato, & Nobuo Terasawa.* 355, 18, 87-C3 (1990)

Global Mixing in SN 1987A by the Asymmetric Shock Wave. *Shoichi Yamada & Katsuhiko Sato.* 358, L9, 127-B1 (1990)

Production of ^9Be and Heavy Elements in the Inhomogeneous Universe. *Nobuo Terasawa & Katsuhiko Sato.* 362, L47, 181-B8 (1990)

SATO, N. Orbital Elements of the Binary X-Ray Pulsar GX 301−2. *N. Sato, F. Nagase, N. Kawai, R. L. Kelley, S. Rappaport, & N. E. White.* 304, 241, 56-E6 (1986)

Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

SATO, S. The Submillimeter Spectrum of the Cosmic Background Radiation. *T. Matsumoto, S. Hayakawa, H. Matsuo, H. Murakami, S. Sato, A. E. Lange, & P. L. Richards.* 329, 567, 82-G5 (1988)

SATO, SHUJI. Infrared Reflection Nebulae around GL 490 and R Monocerotis: Shell Structure and Possible Large Dust Grains. *Takuya Yamashita, Shuji Sato, Tetsuya Nagata, Ian Gatley, Saeko S. Hayashi, & Yasuo Fukui.* 336, 832, 12-G2 (1989)

CO Outflow and Infrared Reflection Nebula of GSS 30 in the Rho Ophiuchi Core. *Motohide Tamura, Shuji Sato, Hiroko Suzuki, Norio Kaifu, & Jim H. Hough.* 350, 728, 35-B1 (1990)

Three Micron Ice-Band Features in the ρ Ophiuchi Sources. *Masuo Tanaka, Shuji Sato, Tetsuya Nagata, & Tetsuo Yamamoto.* 352, 724, 60-A3 (1990)

Three Micron Spectroscopy of Low-Mass Pre–Main-Sequence Stars. *Shuji Sato, Tetsuya Nagata, Masuo Tanaka, & Tetsuo Yamamoto.* 359, 192, 136-D7 (1990)

The Density Structure of the Protostellar Disk: A Power-Law Distribution of the Dust around GGD 27 IRS. *Takuya Yamashita, Shuji Sato, Norio Kaifu, & Saeko S. Hayashi.* 365, 615, 215-G9 (1990)

SAULS, J. A. On the Dynamical Coupling between the Superfluid Interior and the Crust of a Neutron Star. *M. A. Alpar & J. A. Sauls.* 327, 723, 56-E5 (1988)

SAULSON, PETER R. The Smoothness of the 2.2 Micron Background: Constraints on Models of Primeval Galaxies. *Stephen P. Boughn, Peter R. Saulson, & Juan M. Uson.* 301, 17, 14-B10 (1986)

SAULT, R. J. A Modification of the Cornwell and Evans Maximum Entropy Algorithm. *R. J. Sault.* 354, L61, 86-D1 (1990)

Analysis of Zeeman Effect Data in Radio Astronomy. *R. J. Sault, N. E. B. Killeen, J. Zmuidzinas, & R. Loushin.* 74, 437, 36-D5 (1990)

SAULT, ROBERT. The Evolution of the Radio Emission from Kepler's Supernova Remnant. *John R. Dickel, Robert Sault, Richard G. Arendt, Yutaka Matsui, & Kirk T. Korista.* 330, 254, 92-G9 (1988)

SAVAGE, A. Absorption Spectrum of the $z = 3.78$ QSO 2000–330. I. The Lyman-Alpha Forest Region at 1.5 Å Resolution. *R. W. Hunstead, H. S. Murdoch, B. A. Peterson, J. C. Blades, D. L. Jauncey, A. E. Wright, M. Pettini, & A. Savage.* 305, 496, 72-E8 (1986)

SAVAGE, ANN. Redshifts of Southern Radio Sources. VII. *Graeme L. White, David L. Jauncey, Ann Savage, Alan E. Wright, Michael J. Batty, Bruce A. Peterson, & Sam Gulkis.* 327, 561, 54-G7 (1988)

SAVAGE, BLAIR D. Abundances of Interstellar Atoms from Ultraviolet Absorption Lines. *Edward B. Jenkins, Blair D. Savage, & Lyman Spitzer, Jr.* 301, 355, 17-F11 (1986)

Highly Ionized Interstellar Gas Located in the Galactic Disk and Halo. *Blair D. Savage & Derck Massa.* 314, 380, 32-C11 (1987)

Two Lines of Sight with Exceedingly Anomalous Ultraviolet Interstellar Extinction. *Jason A. Cardelli & Blair D. Savage.* 325, 864, 30-A8 (1988)

The Density Distribution of Refractory Elements Away from the Galactic Plane. *Richard J. Edgar & Blair D. Savage.* 340, 762, 78-A1 (1989)

Ultraviolet Observations of Interstellar Absorption Lines toward SN 1987A. *Blair D. Savage, Edward B. Jenkins, Charles L. Joseph, & Klaas S. de Boer.* 345, 393, 154-A12 (1989)

Ultraviolet Interstellar Absorption toward HD 163522, a Halo Star at 9 Kiloparsecs in the Direction $l = 350°$ and $b = -9°$. *Blair D. Savage, Derck Massa, & Kenneth Sembach.* 355, 114, 88-D5 (1990)

The Distribution of Interstellar Al III Away from the Galactic Plane. *Blair D. Savage, Richard J. Edgar, & Athanassios Diplas.* 361, 107, 158-D1 (1990)

Molecules toward HD 62542: A High-Density, Peculiar Extinction Sight Line in the Gum Nebula Complex. *Jason A. Cardelli, Nicholas B. Suntzeff, Richard J. Edgar, & Blair D. Savage.* 362, 551, 177-E9 (1990)

Scattered Light in the Echelle Modes of the Goddard High-Resolution Spectrograph Aboard the *Hubble Space Telescope*. I. Analysis of Prelaunch Calibration Data. *Jason A. Cardelli, Dennis C. Ebbets, & Blair D. Savage.* 365, 789, 218-B1 (1990)

SAVAGE, MARTIN J. Neutron Exposures in Time-dependent Stellar Convective Regions. *Robert A. Malaney, Martin J. Savage, & Arnold I. Boothroyd.* 324, 948, 14-A1 (1988)

SAVEDOFF, M. P. On the Dust Jet Model of SS 433. *H. L. Helfer & M. P. Savedoff.* 304, 581, 62-C1 (1986)

Oscillation Spectra of Neutron Stars with Strong Magnetic Fields. *B. W. Carroll, E. G. Zweibel, C. J. Hansen, P. N. McDermott, M. P. Savedoff, J. H. Thomas, & H. M. Van Horn.* 305, 767, 77-C9 (1986)

SAVEDOFF, MALCOLM P. Shifts of Spectral Lines Caused by Scattering from Fluctuating Random Media. *Daniel F. V. James, Malcolm P. Savedoff, & Emil Wolf.* 359, 67, 134-G5 (1990)

SAVONIJE, G. J. Wave Propagation in Gaseous Accretion Disks. *D. N. C. Lin, J. C. B. Papaloizou, & G. J. Savonije.* 364, 326, 198-B1 (1990)

Propagation of Tidal Disturbance in Gaseous Accretion Disks. *D. N. C. Lin, J. C. B. Papaloizou, & G. J. Savonije.* 365, 748, 217-E8 (1990)

SAWYER, R. F. Neutrino Capture by Nuclei and the Neutrino Pulse from a Supernova. *R. F. Sawyer.* 328, 691, 70-F1 (1988)

SAYKALLY, R. J. Accurate Determination of the Fine-Structure Intervals in the ^3P Ground States of ^{13}C and ^{12}C by Far-Infrared Laser Magnetic Resonances. *A. L. Cooksy, R. J. Saykally, J. M. Brown, & K. M. Evenson.* 309, 828, 130-D1 (1986)

Laboratory Measurement of the Pure Rotational Spectrum of Vibrationally Excited HCO^+ ($v = 1$) by Far-Infrared Laser Sideband Spectroscopy. *Geoffrey A. Blake, K. B. Laughlin, R. C. Cohen, Kerry L. Busarow, & R. J. Saykally.* 316, L45, 56-D7 (1987)

SAYKALLY, RICHARD J. Direct Measurement of the Fine-Structure Interval and g_J Factors of Singly Ionized Atomic Carbon by Laser Magnetic Resonance. *Andrew L. Cooksy, Geoffrey A. Blake, & Richard J. Saykally.* 305, L89, 80-E11 (1986)

SCALO, JOHN. Recognition and Characterization of Hierarchical Interstellar Structure. I. Correlation Function. *Padraig Houlahan & John Scalo.* 72, 133, 3-F9 (1990)

History of the Milky Way Star Formation Rate from the White Dwarf Luminosity Function. *Hye-Rim Noh & John Scalo.* 352, 605, 58-E3 (1990)

SCALO, JOHN M. A Physical Mechanism for Bursts of Star Formation. *John M. Scalo & Curtis Struck-Marcell.* 301, 77, 14-G2 (1986)

Continuum Models for Gas in Disturbed Galaxies. III. Bifurcations and Chaos in a Deterministic Model for Bursts of Star Formation. *Curtis Struck-Marcell & John M. Scalo.* 64, 39, 17-D11 (1987)

Bursting Dwarf Galaxies: Implications for Luminosity Function, Space Density, and Cosmological Mass Density. *Neil D. Tyson & John M. Scalo.* 329, 618, 83-D7 (1988)

Evolution of the Star Formation Rate in Galaxies with Increasing Densities. *Enrique C. Vázquez & John M. Scalo.* 343, 644, 127-C1 (1989)

SCARAMELLA, ROBERTO. Data Analysis and Monte Carlo Simulation of a Cosmic Background Radiation Anisotropy Experiment. *Nicola Vittorio, Paolo de Bernardis, Silvia Masi, & Roberto Scaramella.* 341, 163, 86-A1 (1989)

A Recently Reported "Bump" in the Cosmic Microwave Background: When Could It Have Originated? *Roberto Scaramella.* 346, 607, 175-A7 (1989)

Constraints on the Amplitude of Primordial Density Fluctuations from the Large-Scale Cosmic Microwave Background Temperature Distribution. *Roberto Scaramella & Nicola Vittorio.* 353, 372, 68-F6 (1990)

SCARDIA, MARCO. Micrometric Measurements of Visual Double Stars (IV List). *Marco Scardia.* 71, 647, 45-A9 (1989)

SCARF, F. L. Evidence for Nonlinear Wave-Wave Interactions in Solar Type III Radio Bursts. *R. P. Lin, W. K. Levedahl, W. Lotko, D. A. Gurnett, & F. L. Scarf.* 308, 954, 119-D7 (1986)

SCARGLE, JEFFREY D. Studies in Astronomical Time Series Analysis. III. Fourier Transforms, Autocorrelation Functions, and Cross-Correlation Functions of Unevenly Spaced Data. *Jeffrey D. Scargle.* 343, 874, 130-B1 (1989)

Studies in Astronomical Time Series Analysis. IV. Modeling Chaotic and Random Processes with Linear Filters. *Jeffrey D. Scargle.* 359, 469, 141-G7 (1990)

SCARMELLA, ROBERTO. On the Large-Scale Anisotropy of the Cosmic Microwave Background. *Roberto Scarmella & Nicola Vittorio.* 331, L53, 121-A10 (1988)

SCARROTT, S. M. Polarimetry of the NGC 2261/R Monocerotis System and the Faint Jetlike Feature to its Southwest. *R. F. Warren-Smith, P. W. Draper, & S. M. Scarrott.* 315, 500, 46-B11 (1987)

SCARSI, L. Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

Observation of the Vela Pulsar, PSR 0833–45, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Sacco, G. Gerardi, T. Mineo, L. Scarsi, B. Agrinier, E. Barouch, J. L. Masnou, B. Parlier, E. Costa, E. Massaro, M. Salvati, M. Niel, P. Mandrou, C. Hote, & P. M. McCulloch.* 349, L21, 19-C5 (1990)

Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)

MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

SCATENA-WACHEL, DEBRA E. Large Negative ^{50}Ti Anomalies in Refractory Inclusions from the Murchison Carbonaceous Chondrite: Evidence for Incomplete Mixing of Neutron-rich Supernova Ejecta into the Solar System. *Richard W. Hinton, Andrew M. Davis, & Debra E. Scatena-Wachel.* 313, 420, 19-E12 (1987)

SCHAAF, R. X-Ray Observations of the Starburst Galaxy M82. *R. Schaaf, W. Pietsch, P. L. Biermann, P. P. Kronberg, & T. Schmutzler.* 336, 722, 11-D1 (1989)

SCHACHTER, JONATHAN. Bowen Fluorescence in Scorpius X-1. *Jonathan Schachter, Alexei V. Filippenko, & Steven M. Kahn.* 340, 1049, 81-D1 (1989)
Bowen Fluorescence in a Sample of Seyfert Nuclei. *Jonathan Schachter, Alexei V. Filippenko, & Steven M. Kahn.* 362, 74, 170-A9 (1990)
Bowen Fluorescence in Scorpius X-1: Erratum. *Jonathan Schachter, Alexei V. Filippenko, & Steven M. Kahn.* 362, 379, 173-G5 (1990) (Orig. paper in 340, 1049, 81-D1 (1989))
SCHADE, D. The M31 Globular Cluster System: Erratum. *D. Crampton, A. P. Cowley, D. Schade, & P. Chayer.* 322, 1074, 151-F12 (1987) (Orig. paper in 288, 494, 8-B2 (1985))
SCHADE, DAVID. The Late-Type Stellar Content of NGC 55. *Christopher J. Pritchet, Harvey B. Richer, David Schade, Dennis Crabtree, & H. K. C. Yee.* 323, 79, 154-A3 (1987)
SCHÄFER, A. Dynamic Screening of Thermonuclear Reactions. *C. Carraro, A. Schäfer, & S. E. Koonin.* 331, 565, 112-F1 (1988)
SCHAEFER, B. E. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)
SCHAEFER, BRADLEY E. R Coronae Borealis Stars and Planetary Nebulae. *Bradley E. Schaefer.* 307, 644, 104-A9 (1986)
Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)
The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)
Light Echoes: Supernovae 1987A and 1986G. *Bradley E. Schaefer.* 323, L47, 158-D3 (1987)
Light Echoes: Type II Supernovae. *Bradley E. Schaefer.* 323, L51, 158-D6 (1987)
Light Echoes: Novae. *Bradley E. Schaefer.* 327, 347, 50-G1 (1988)
Flashes from Normal Stars. *Bradley E. Schaefer.* 337, 927, 30-D2 (1989)
Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)
Very Low Luminosity Stars with Very Large Amplitude Flares. *Bradley E. Schaefer.* 353, L25, 67-C10 (1990)
The Optical Light Curve of the Low-Mass X-Ray Binary GX 9+9. *Bradley E. Schaefer.* 354, 720, 85-C1 (1990)
Orbital Periods of Recurrent Novae. *Bradley E. Schaefer.* 355, L39, 98-C11 (1990)
Gamma-Ray Burster Counterparts: Archival Data. *Bradley E. Schaefer.* 364, 590, 203-D11 (1990)
SCHAEFER, R. K. A General, Gauge-invariant Analysis of the Cosmic Microwave Anisotropy. *L. F. Abbott & R. K. Schaefer.* 308, 546, 114-G8 (1986)
SCHAEFER, ROBERT K. Large-scale Structure Formation and Cosmic Microwave Anisotropy in a Cold plus Hot Dark Matter Universe. *Robert K. Schaefer, Quaisar Shafi, & Floyd W. Stecker.* 347, 575, 190-D1 (1989)
SCHAEFFER, R. Light Curves of Exploding Wolf-Rayet Stars. *R. Schaeffer, M. Cassé, & S. Cahen.* 316, L31, 56-C8 (1987)
SCHAEFFER, RICHARD. Cold, Warm, or Hot Dark Matter: Biased Galaxy Formation and Pancakes. *Richard Schaeffer & Joseph Silk.* 332, 1, 123-A9 (1988)
Hot Gas in Evolving Galaxy Clusters and Groups: Implications for the Microwave and X-Ray Backgrounds. *Richard Schaeffer & Joseph Silk.* 333, 509, 145-D5 (1988)
Galaxies: Fractal Dimensions, Counts in Cells, and Correlations. *Roger Balian & Richard Schaeffer.* 335, L43, 185-B1 (1988)
Nonlinear Clustering in the CfA Redshift Survey. *Jean-Michel Alimi, Alain Blanchard, & Richard Schaeffer.* 349, L5, 19-B1 (1990)
SCHALINSKI, C. 1928+738: A Superluminal Source with Large-Scale Structure. *K. J. Johnston, R. S. Simon, A. Eckart, P. Biermann, C. Schalinski, A. Witzel, & R. G. Strom.* 313, L85, 27-D11 (1987)
SCHALINSKI, CORNELIUS. High-Resolution Radio Observations of the Most Luminous Quasar. *Helmut Kühr, John T. Stocke, Peter A. Strittmatter, Norbert Bartel, Andreas Eckart, Cornelius Schalinski, Arno Witzel, & Peter Biermann.* 302, 52, 28-E5 (1986)
SCHARMER, G. B. High-Resolution Spectra of Solar Magnetic Features. I. Analysis of Penumbral Fine Structure. *B. W. Lites, G. B. Scharmer, & A. Skumanich.* 355, 329, 91-A1 (1990)
SCHATTEN, KENNETH H. Convection Zone Origins of Solar Atmospheric Heating. *Kenneth H. Schatten & Hans G. Mayr.* 309, 864, 130-F9 (1986)
A Hillock and Cloud Model for Faculae. *Kenneth H. Schatten, Hans G. Mayr, Kazem Omidvar, & Eugene Maier.* 311, 460, 151-A13 (1986)
The Efficiency of Convective Energy Transport in the Sun. *Kenneth H. Schatten.* 329, 1028, 88-D1 (1988)
Do Faculae Blanket Sunspots? *Kenneth H. Schatten, Jerry Orosz, & Hans G. Mayr.* 347, 514, 188-D1 (1989)
SCHATTENBURG, MARK L. High-Resolution X-Ray Spectroscopy of the Crab Nebula and the Oxygen Abundance of the Interstellar Medium. *Mark L. Schattenburg & Claude R. Canizares.* 301, 759, 23-G11 (1986)
SCHAUDT, KIMBERLY J. Pulsars and Supernova Remnants. *Ramesh Narayan & Kimberly J. Schaudt.* 325, L43, 31-D5 (1988)
SCHECHTER, PAUL L. H I Maps of S0 Galaxies with Polar Rings. *J. H. van Gorkom, Paul L. Schechter, & Jerome Kristian.* 314, 457, 34-E3 (1987)
A Survey of the Bootes Void. *Robert P. Kirshner, Augustus Oemler, Jr., Paul L. Schechter, & Stephen A. Shectman.* 314, 493, 35-A2 (1987)
Evidence for Dynamical Subsystems in Elliptical Galaxies. *Robert Jedrzejewski & Paul L. Schechter.* 330, L87, 104-F1 (1988)
Southern Milky Way Carbon Stars: New Candidates, *JHK* Photometry, and Radial Velocities. *Marc Aaronson, Victor M. Blanco, Kem H. Cook, & Paul L. Schechter.* 70, 637, 27-D1 (1989)
Northern Milky Way Carbon Stars: New Candidates, *JHK* Photometry, and Radial Velocities. *Marc Aaronson, Victor M. Blanco, Kem H. Cook, Edward W. Olszewski, & Paul L. Schechter.* 73, 841, 29-F1 (1990)
The Ω Dependence of Peculiar Velocities Induced by Spherical Density Perturbations. *Alan P. Lightman & Paul L. Schechter.* 74, 831, 43-B1 (1990)
SCHEINGRABER, H. Deterministic Chaos in Accreting Systems: Analysis of the X-Ray Variability of Herculis X-1. *W. Voges, H. Atmanspacher, & H. Scheingraber.* 320, 794, 118-D10 (1987)
SCHEMPP, W. V. D/H for Uranus and Neptune. *Wm. Hayden Smith, W. V. Schempp, J. Simon, & Kevin H. Baines.* 336, 962, 14-D9 (1989)
The D/H Ratio for Jupiter. *Wm. Hayden Smith, W. V. Schempp, & Kevin H. Baines.* 336, 967, 14-E1 (1989)
Limits on the Diurnal Variation of H_2 Quadrupole Features in Neptune. *Wm. Hayden Smith, W. V. Schempp, & Kevin H. Baines.* 343, 450, 123-E13 (1989)
SCHENEWERK, M. S. Interstellar HCO: Detection of the Missing 3 Millimeter Quartet. *M. S. Schenewerk, L. E. Snyder, & Åke Hjalmarson.* 303, L71, 53-E6 (1986)
HCO Emission from H II–Molecular Cloud Interface Regions. *M. S. Schenewerk, L. E. Snyder, J. M. Hollis, P. R. Jewell, & L. M. Ziurys.* 328, 785, 71-F1 (1988)
SCHERB, F. Hα Scans of the Intergalactic H I Cloud in Leo. *R. J. Reynolds, K. Magee, F. L. Roesler, F. Scherb, & J. Harlander.* 309, L9, 125-D2 (1986)
SCHERRER, P. H. Rotation of the Coronal Magnetic Fields. *J. T. Hoeksema & P. H. Scherrer.* 318, 428, 83-E12 (1987)
Rotation of the Photospheric Magnetic Fields: A North-South Asymmetry. *E. Antonucci, J. T. Hoeksema, & P. H. Scherrer.* 360, 296, 148-F3 (1990)
SCHERRER, R. J. Cosmological Quantum Chromodynamics, Neutron Diffusion, and the Production of Primordial Heavy Elements. *J. H. Applegate, Craig J. Hogan, & R. J. Scherrer.* 329, 572, 83-A1 (1988)
SCHERRER, ROBERT J. Large-Scale Structure from Cosmic String Loops. I. Formation and Linear Evolution of Perturbations. *Robert J. Scherrer.* 320, 1, 108-A7 (1987)

Primordial Nucleosynthesis with Decaying Particles. I. Entropy-producing Decays. *Robert J. Scherrer & Michael S. Turner.* 331, 19, 106-C1 (1988)

Primordial Nucleosynthesis with Decaying Particles. II. Inert Decays. *Robert J. Scherrer & Michael S. Turner.* 331, 33, 106-D1 (1988)

Large-Scale Structure from Cosmic String Loops in a Baryon-dominated Universe. *Adrian L. Melott & Robert J. Scherrer.* 331, 38, 106-D6 (1988)

Void Statistics, Scaling, and the Origins of Large-Scale Structure. *J. N. Fry, Riccardo Giovanelli, Martha P. Haynes, Adrian L. Melott, & Robert J. Scherrer.* 340, 11, 67-B4 (1989)

The Area of Isodensity Contours in Cosmological Models and Galaxy Surveys. *Barbara S. Ryden, Adrian L. Melott, David A. Craig, J. Richard Gott III, David H. Weinberg, Robert J. Scherrer, Suketu P. Bhavsar, & John M. Miller.* 340, 647, 76-E1 (1989)

The Formation of Pregalactic Objects from White-Noise Density Perturbations. *Robert J. Scherrer & Tanmay Vachaspati.* 361, 338, 162-D1 (1990)

SCHEUFELE, B. M. The Interstellar Clouds toward 3C 154 and 3C 353. *S. R. Federman, Neal J. Evans II, R. F. Willson, E. Falgarone, F. Combes, & B. M. Scheufele.* 322, 960, 150-D4 (1987)

SCHIANO, A. V. R. The Interaction of Interstellar Clouds with a "Quasar Wind" and Its Relation to the Narrow Emmision Line Regions of Seyfert Galaxies. *A. V. R. Schiano.* 302, 81, 28-G10 (1986)

Narrow Emission Line Profiles in a "Quasar Wind." *A. V. R. Schiano.* 302, 95, 29-A10 (1986)

The Effect of a Quasi-stellar Object on Its Host Galaxy: Dynamical and Physical Processes in the Interstellar Medium around a Quasi-stellar Object. *C. A. Chang, A. V. R. Schiano, & A. M. Wolfe.* 322, 180, 139-G8 (1987)

The Hydrodynamic Collapse of Protogalaxies to Lyα Disks. *A. V. R. Schiano, A. M. Wolfe, & C. A. Chang.* 365, 439, 213-D10 (1990)

SCHIFINO, A. SICARDI. Hopf Bifurcations in Coronal Loops. I. Stability Conditions for Static Equilibrium. *D. Gómez, A. Sicardi Schifino, & C. Ferro Fontán.* 352, 318, 53-F13 (1990)

Hopf Bifurcations in Coronal Loops. II. Nonlinear Evolution of Instabilities. *D. Gómez, A. Sicardi Schifino, & C. Ferro Fontán.* 352, 326, 53-G8 (1990)

SCHILD, R. E. New X-Ray and Optical Observations of the X-Ray Discovered QSO-Galaxy Pair 1E 0104.2+3153. *Isabella M. Gioia, T. Maccacaro, R. E. Schild, P. Giommi, & J. T. Stocke.* 307, 497, 102-B8 (1986)

1E 0116.3–0116: A Peculiar, X-Ray–Bright, Early-Type Galaxy. *D. Maccagni, I. M. Gioia, T. Maccacaro, R. E. Schild, & J. T. Stocke.* 316, 132, 51-D6 (1987)

Near-Infrared and Optical Observations of IRAS Sources in and near Dense Cores. *P. C. Myers, Gary A. Fuller, R. D. Mathieu, C. A. Beichman, P. J. Benson, R. E. Schild, & J. P. Emerson.* 319, 340, 96-F5 (1987)

Inverse Compton Scattering of Ambient Radiation by a Cold Relativistic Jet: A Source of Beamed, Polarized X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *Mitchell C. Begelman, Marek Sikora, P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 650, 146-G12 (1987)

X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 662, 147-A10 (1987)

No Evidence for Radio-quiet BL Lacertae Objects. *John T. Stocke, Simon L. Morris, Isabella Gioia, Tommaso Maccacaro, R. E. Schild, & A. Wolter.* 348, 141, 2-F11 (1990)

The *Einstein Observatory* Extended Medium-Sensitivity Survey. I. X-Ray Data and Analysis. *I. M. Gioia, T. Maccacaro, R. E. Schild, A. Wolter, J. T. Stocke, S. L. Morris, & J. P. Henry.* 72, 567, 10-C11 (1990)

SCHILD, RUDOLPH. Rapid X-Ray and Optical Variability in the X-Ray–selected BL Lacertae Object 1E 1402.3+0416. *Paolo Giommi, Paul Barr, Isabella M. Gioia, Tommaso Maccacaro, Rudolph Schild, Bianca Garilli, & Dario Maccagni.* 303, 596, 49-A10 (1986)

SCHILD, RUDOLPH E. CCD Camera Brightness Monitoring of Q0957+561A, B. *Rudolph E. Schild & Bryan Cholfin.* 300, 209, 3-C9 (1986)

CCD Surface Photometry of Bright Reflection Nebulae. *Adolf N. Witt & Rudolph E. Schild.* 62, 839, 42-E2 (1986)

X-Ray–selected AGNs near Bright Galaxies. *John T. Stocke, Peter Schneider, Simon L. Morris, Isabella M. Gioia, Tommaso Maccacaro, & Rudolph E. Schild.* 315, L11, 45-A14 (1987)

Hydrogenated Amorphous Carbon Grains in Reflection Nebulae. *Adolf N. Witt & Rudolph E. Schild.* 325, 837, 29-F6 (1988)

L43: An Example of Interaction between Molecular Outflows and Dense Cores. *Robert D. Mathieu, Priscilla J. Benson, Gary A. Fuller, Philip C. Myers, & Rudolph E. Schild.* 330, 385, 94-E1 (1988)

A Cooling Flow in a High-Redshift, X-Ray–selected Cluster of Galaxies. *Roberto Nesci, Isabella M. Gioia, Tommaso Maccacaro, Simon L. Morris, Giuseppe C. Perola, Rudolph E. Schild, & Anna Wolter.* 344, 104, 134-C11 (1989)

SCHILD, RUDY E. MS 1603.6+2600, an Unusual X-Ray Selected Binary System at High Galactic Latitude. *Simon L. Morris, James Liebert, John T. Stocke, Isabella M. Gioia, Rudy E. Schild, & Anna Wolter.* 365, 686, 216-G1 (1990)

SCHILIZZI, R. T. Magnetic Field Structure of the Star-forming Region W3(OH): VLBI Spectral Line Results. *J. A. García-Barreto, B. F. Burke, M. J. Reid, J. M. Moran, A. D. Haschick, & R. T. Schilizzi.* 326, 954, 44-A8 (1988)

Superluminal Motion in the Giant Quasar 4C 34.47. *P. D. Barthel, J. R. Hooimeyer, R. T. Schilizzi, G. K. Miley, & E. Preuss.* 336, 601, 10-A9 (1989)

SCHILIZZI, RICHARD. VLBI and VLA Observations of the BL Lacertae–Type Object Markarian 501: Evidence for Grossly Misalingned Small-Scale and Large-Scale Radio Structure. *Wil van Breugel & Richard Schilizzi.* 301, 834, 24-F11 (1986)

SCHILIZZI, RICHARD T. The Inner Beams of SS 433. *Jonathan D. Romney, Richard T. Schilizzi, István Fejes, & Ralph E. Spencer.* 321, 822, 133-E3 (1987)

SCHILKE, PETER. High-Density Molecular Gas in External Galaxies: Formaldehyde and Carbon Monosulfide. *Willem A. Baan, Christian Henkel, Peter Schilke, Rainer Mauersberger, & Rolf Güsten.* 353, 132, 63-G1 (1990)

SCHINDER, PAUL J. Neutrino Emission by the Pair, Plasma, and Photo Processes in the Weinberg-Salam Model. *Paul J. Schinder, David N. Schramm, Paul J. Wiita, Steven H. Margolis, & David L. Tubbs.* 313, 531, 22-E9 (1987)

Statistical Analysis of the Time Structure of the Neutrinos from Supernova 1987A. *Sidney A. Bludman & Paul J. Schinder.* 326, 265, 35-B3 (1988)

Radiative Transport in Spherical Static Spacetime: General Relativistic Tangent-Ray Method for the Variable Eddington Factors. *Paul J. Schinder & Sidney A. Bludman.* 346, 350, 170-D11 (1989)

Exact Expressions and Improved Approximations for Interaction Rates of Neutrinos with Free Nucleons in a High-Temperature, High-Density Gas. *Paul J. Schinder.* 74, 249, 33-D5 (1990)

SCHINDLER, S. M. An Imaging Observation of SN 1987A at Gamma-Ray Energies. *W. R. Cook, D. M. Palmer, T. A. Prince, S. M. Schindler, C. H. Starr, & E. C. Stone.* 334, L87, 169-D12 (1988)

SCHLEGEL, E. M. Evidence for a Bipolar Wind in the Cataclysmic Variable PG 1012–029. *R. K. Honeycutt, E. M. Schlegel, & R. H. Kaitchuck.* 302, 388, 32-D14 (1986)

A Spectrophotometric Study and Mass Determination for the Cataclysmic Variable Lanning 10. *E. M. Schlegel, R. K. Honeycutt, & R. H. Kaitchuck.* 307, 760, 105-C7 (1986)

SCHLEGEL, ERIC M. Time-resolved Spectrophotometry of the Cataclysmic Variable EX Hydrae. *Ronald H. Kaitchuck, Panayiotis A. Hantzios, Panagiotis Kakaletris, R. Kent Honeycutt, & Eric M. Schlegel.* 317, 765, 74-D3 (1987)

Atlas of Time-resolved Spectrophotometry of Cataclysmic Variables. *R. Kent Honeycutt, Ronald H. Kaitchuck, & Eric M. Schlegel.* 65, 451, 34-D4 (1987)

Doppler Imaging of the Dwarf Nova U Geminorum. *T. R. Marsh, Keith Horne, Eric M. Schlegel, R. Kent Honeycutt, & Ronald H. Kaitchuck.* 364, 637, 204-B1 (1990)

SCHLEICHER, DAVID G. Comet P/Encke's Nongravitational Force. *Michael F. A'Hearn & David G. Schleicher.* 331, L47, 114-D10 (1988)

The Fluorescence of Cometary OH. *David G. Schleicher & Michael F. A'Hearn.* 331, 1058, 120-E12 (1988)

Revised Scale Lengths for Cometary NH. *David G. Schleicher & Robert L. Millis.* 339, 1107, 65-C8 (1989)

The Nucleus of Comet P/Tempel 2. *Michael F. A'Hearn, Humberto Campins, David G. Schleicher, & Robert L. Millis.* 347, 1155, 198-A4 (1989)

Anomalous Molecular Abundances and the Depletion of NH_2 in Comet P/Giacobini-Zinner. *John E. Beaver, R. Mark Wagner, David G. Schleicher, & Barry L. Lutz.* 360, 696, 154-G1 (1990)

SCHLICKEISER, R. Smearing of a Beaming Pattern by an Isotropic Cloud: An Analysis with Applications to Nonpulsing X-Ray Sources and Cosmic Rays. *Y.-M. Wang & R. Schlickeiser.* 313, 200, 17-B11 (1987)

On the Influence of a Thermal Plasma on the Energy Loss Rates of Single Relativistic Electrons and the Formation of Electron Energy Spectra in Cosmic Radio Sources. *R. Schlickeiser & A. Crusius.* 328, 578, 69-D10 (1988)

On the Stability of Isotropic Distribution Functions of Relativistic Electrons. I. Parallel Propagating Waves in a Cold Electron-Proton Background Gas. *R. Schlickeiser & H. Lesch.* 329, 149, 76-F1 (1988)

SCHLICKEISER, REINHARD. Particle Acceleration in Solar Flares. *Wolfgang Dröge & Reinhard Schlickeiser.* 305, 909, 79-A1 (1986)

Cosmic-Ray Transport in Accelerating Flows. *John G. Kirk, Reinhard Schlickeiser, & Peter Schneider.* 328, 269, 65-A1 (1988)

Cosmic-Ray Transport and Acceleration. I. Derivation of the Kinetic Equation and Application to Cosmic Rays in Static Cold Media. *Reinhard Schlickeiser.* 336, 243, 4-B4 (1989)

Cosmic-Ray Transport and Acceleration. II. Cosmic Rays in Moving Cold Media with Application to Diffusive Shock Wave Acceleration. *Reinhard Schlickeiser.* 336, 264, 4-D1 (1989)

Depolarizing Hot Gas in Clusters of Galaxies with a Strong Double Radio Source. *André R. Crusius-Wätzel, Peter L. Biermann, Ian Lerche, & Reinhard Schlickeiser.* 360, 417, 151-E1 (1990)

SCHLOERB, F. P. Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, J. S. Young, B. T. Soifer, F. P. Schloerb, W. L. Rice, & G. E. Danielson.* 305, L45, 80-B12 (1986)

High-Resolution Images of the L1551 Bipolar Outflow: Evidence for an Expanding, Accelerated Shell. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, F. P. Schloerb, K. M. Strom, & G. L. Grasdalen.* 319, 742, 103-B6 (1987)

The Magnetic Evolution of the Taurus Molecular Clouds. I. Large-Scale Properties. *Mark H. Heyer, Frederick J. Vrba, Ronald L. Snell, F. P. Schloerb, Stephen E. Strom, Paul F. Goldsmith, & Karen M. Strom.* 321, 855, 133-G9 (1987)

SCHLOERB, F. PETER. CO Observations of Infrared Bright Galaxies: The Efficiency of Star Formation. *Judith S. Young, F. Peter Schloerb, Jeffrey D. Kenney, & Steven D. Lord.* 304, 443, 58-F4 (1986)

Carbon Monoxide as an Extragalactic Mass Tracer. *R. L. Dickman, Ronald L. Snell, & F. Peter Schloerb.* 309, 326, 123-D13 (1986)

HCN Production from Comet Halley. *F. Peter Schloerb, Wayne M. Kinzel, Daryl A. Swade, & William M. Irvine.* 310, L55, 138-D12 (1986)

The Molecular Content of Interacting and Isolated Galaxies: The Effect of Environment on the Efficiency of Star Formation. *Judith S. Young, Jeffrey D. Kenney, Linda Tacconi, M. J. Claussen, Y.-L. Huang, Lowell Tacconi-Garman, Shuding Xie, & F. Peter Schloerb.* 311, L17, 152-B11 (1986)

1300 Micron Continuum and $C^{18}O$ Line Mapping of the Giant Molecular Cloud Cores in Orion, W49, and W51. *F. Peter Schloerb, Ronald L. Snell, & P. R. Schwartz.* 319, 426, 97-G5 (1987)

Collisional Quenching of Cometary Emission in the 18 Centimeter OH Transitions. *F. Peter Schloerb.* 332, 524, 128-G4 (1988)

1300 Micron Continuum and $C^{18}O$ Line Mapping of Giant Molecular Cloud Cores. II. W3, NGC 2264, NGC 6334I, Rho Ophiuchi, and S140. *P. R. Schwartz, Ronald L. Snell, & F. Peter Schloerb.* 336, 519, 7-F1 (1989)

Comparison of the Far-Infrared and Carbon Monoxide Emission in Heiles' Cloud 2 and B18. *Ronald L. Snell, Mark H. Heyer, & F. Peter Schloerb.* 337, 739, 28-C1 (1989)

A CO and Far-Infrared Study of the S254–S258 Region. *Mark H. Heyer, Ronald L. Snell, James Morgan, & F. Peter Schloerb.* 346, 220, 168-G8 (1989)

Molecular Clouds Associated with Luminous Far-Infrared Sources in the Outer Galaxy. *John M. Carpenter, Ronald L. Snell, & F. Peter Schloerb.* 362, 147, 171-A1 (1990)

High Spectral Resolution Observations and Kinematic Modeling of the 1667 MHz Hyperfine Transition of OH in Comets Halley (1982i), Giacobini-Zinner (1984e), Hartley-Good (1985l), Thiele (1985m), and Wilson (1986l). *L. E. Tacconi-Garman, F. Peter Schloerb, & M. J. Claussen.* 364, 672, 204-E1 (1990)

SCHMAHL, E. J. Simultaneous VLA Observations of a Flare at 6 and 20 Centimeter Wavelengths. *T. Velusamy, M. R. Kundu, E. J. Schmahl, & M. McCabe.* 319, 984, 105-F4 (1987)

Coronal Bright Points at 6 and 20 Centimeter Wavelengths. *M. R. Kundu, E. J. Schmahl, & Q.-J. Fu.* 325, 905, 30-D8 (1988)

Microwave Evidence for Large-Scale Changes Associated with a Filament Eruption. *M. R. Kundu, E. J. Schmahl, & Q.-J. Fu.* 336, 1078, 15-G1 (1989)

The Radio Signatures of a Slow Coronal Mass Ejection: Electron Acceleration at Slow-Mode Shocks? *M. Kundu, N. Gopalswamy, S. White, P. Cargill, E. J. Schmahl, & E. Hildner.* 347, 505, 188-C3 (1989)

Microwave and X-Ray Observations of a Major Confined Solar Flare. *E. J. Schmahl, J. T. Schmelz, J. L. R. Saba, K. T. Strong, & M. R. Kundu.* 358, 654, 131-F2 (1990)

SCHMELZ, J. T. The Leo Triplet Spiral Galaxy NGC 3628. I. VLA Observations of the Neutral Hydrogen Absorption. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 315, 492, 46-B3 (1987)

The Leo Triplet Spiral Galaxy NGC 3628. II. VLA Observations of the Hydroxyl Absorption. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 320, 145, 109-E11 (1987)

The Megamaser Galaxy Markarian 273. I. VLA Observations of the Hydroxyl Emission. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 321, 225, 124-F6 (1987)

The Megamaser Galaxy Markarian 273.. II. VLA Observations of the Neutral Hydrogen Absorption. *J. T. Schmelz, W. A. Baan, & A. D. Haschick.* 329, 142, 76-E7 (1988)

Microwave and X-Ray Observations of a Major Confined Solar Flare. *E. J. Schmahl, J. T. Schmelz, J. L. R. Saba, K. T. Strong, & M. R. Kundu.* 358, 654, 131-F2 (1990)

SCHMELZ, JOAN T. The Peculiar Galaxy IC 4553. II. VLA Observations of the Neutral Hydrogen. *Willem A. Baan, J. H. van Gorkom, Joan T. Schmelz, & I. Félix Mirabel.* 313, 102, 16-B7 (1987)

SCHMID, J. Abundance of Iron Ions in the Solar Wind. *J. Schmid, P. Bochsler, & J. Geiss.* 329, 956, 87-E6 (1988)

SCHMID-BURGK, J. A Highly Collimated Outflow in the Core of OMC-1. *J. Schmid-Burgk, R. Güsten, R. Mauersberger, A. Schulz, & T. L. Wilson.* 362, L25, 174-C11 (1990)

SCHMIDT, EDWARD G. The Chromosphere of Beta Cassiopeiae. *Terry J. Teays, Edward G. Schmidt, Massimo Fracassini, & Laura E. Pasinetti Fracassini.* 343, 916, 130-E4 (1989)

HR Aurigae: An Active Binary? *Charles G. Loòmis & Edward G. Schmidt.* 347, L77, 199-D5 (1989)

The Long-Period Field RR Lyrae Stars. *Edward G. Schmidt, Charles G. Loomis, Andrew T. Groebner, & Chris T. Potter.* 360, 604, 153-F7 (1990)

SCHMIDT, FRED H. Supernovae in Flocculent and Grand Design Spirals. *Marshall L. McCall & Fred H. Schmidt.* 311, 548, 153-G3 (1986)

SCHMIDT, GARY. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

SCHMIDT, GARY D. The Optical Continua of Magnetic Variables. *Gary D. Schmidt, H. S. Stockman, & S. A. Grandi.* 300, 804, 12-A6 (1986)

Circular Polarization in the DQ Herculis Binary 3A 0729+103. *William R. Penning, Gary D. Schmidt, & James Liebert.* 301, 881, 24-C8 (1986)

The New Magnetic White Dwarf PG 1031+234: Polarization and Field Structure at More than 500 Million Gauss. *Gary D. Schmidt, Steven C. West, James Liebert, Richard F. Green, & H. S. Stockman.* 309, 218, 122-C11 (1986)

The Hiss of BL Lacertae. *Richard L. Moore, Gary D. Schmidt, & Steven C. West.* 314, 176, 29-G10 (1987)

1E 1048.5+5421: A New 114 Minute AM Herculis Binary. *Simon L. Morris, Gary D. Schmidt, James Liebert, John Stocke, Isabella M. Gioia, & Tommaso Maccacaro.* 314, 641, 36-E8 (1987)

The Rotationally Modulated Zeeman Spectrum at Nearly 10^9 Gauss of the White Dwarf PG 1031+234. *William B. Latter, Gary D. Schmidt, & Richard F. Green.* 320, 308, 111-D9 (1987)

The Discovery of Near-Infrared Polarized Cyclotron Emission in the Intermediate Polar BG Canis Minoris. *Steven C. West, Graham Berriman, & Gary D. Schmidt.* 322, L35, 145-C7 (1987)

The Nature of the Strong, Static Polarization of the Quasar OI 287. *Richard J. Rudy & Gary D. Schmidt.* 331, 325, 109-G1 (1988)

V1500 Cygni: Discovery of a Magnetic Nova. *H. S. Stockman, Gary D. Schmidt, & D. Q. Lamb.* 332, 282, 126-C4 (1988)

H0538+608: A Long-Period AM Her System Exhibiting Extreme Variations in Accretion Geometry. *Paul A. Mason, James Liebert, & Gary D. Schmidt.* 346, 941, 178-G2 (1989)

Time-resolved Spectroscopy and Photometry of the Eclipsing AM Herculis Binary EXO 033319−2554.2. *Richard G. Allen, Graham Berriman, Paul S. Smith, & Gary D. Schmidt.* 347, 426, 187-D1 (1989)

On the Spectrum and Field Strength of the Magnetic White Dwarf GD 229. *Gary D. Schmidt, William B. Latter, & Craig B. Foltz.* 350, 758, 35-D7 (1990)

Spectroscopic Limits on High-Redshift Lyα Emission. *James D. Lowenthal, Craig J. Hogan, Robert W. Leach, Gary D. Schmidt, & Craig B. Foltz.* 357, 3, 111-B4 (1990)

An Optical Polarization Survey of the Palomar-Green Bright Quasar Sample. *Graham Berriman, Gary D. Schmidt, S. C. West, & H. S. Stockman.* 74, 869, 43-E5 (1990)

SCHMIDT, M. Continuum Energy Distributions of Quasars in the Palomar-Green Survey. *G. Neugebauer, R. F. Green, K. Matthews, M. Schmidt, B. T. Soifer, & J. Bennett.* 63, 615, 10-A7 (1987)

The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

SCHMIDT, MAARTEN. X-Ray Observations of the Bright Quasar Survey. *H. Tananbaum, Y. Avni, Richard F. Green, Maarten Schmidt, & G. Zamorani.* 305, 57, 67-E7 (1986)

Counts, Evolution, and Background Contribution of X-Ray Quasars and Other Extragalactic X-Ray Sources. *Maarten Schmidt & Richard F. Green.* 305, 68, 67-F4 (1986)

The Palomar-Green Catalog of Ultraviolet-Excess Stellar Objects. *Richard F. Green, Maarten Schmidt, & James Liebert.* 61, 305, 20-G7 (1986)

Spectroscopic CCD Surveys for Quasars at Large Redshift. I. A Deep PFUEI Survey. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 306, 411, 89-A4 (1986)

X-Ray Spectra of PG Quasars. I. The Continuum from X-Rays to the Infrared. *Martin Elvis, Richard F. Green, Jill Bechtold, Maarten Schmidt, G. Neugebauer, B. T. Soifer, K. Matthews, & G. Fabbiano.* 310, 291, 135-B13 (1986)

Spectroscopic CCD Surveys for Quasars at Large Redshift. II. A PFUEI Transit Survey. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 310, 518, 139-D6 (1986)

Nine Optically Selected Quasars with Redshifts Larger than 3. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 316, L1, 56-A4 (1987)

PC 0910+5625: An Optically Selected Quasar with a Redshift of 4.04. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 321, L7, 129-B10 (1987)

Application of the V/V_{max} Test to Gamma-Ray Bursts. *Maarten Schmidt, J. C. Higdon, & Geoffrey Hueter.* 329, L85, 89-C14 (1988)

A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

Apparent Spatial Uniformity of the Gamma-Ray Bursts Detected by the Konus Experiment on *Venera 11* and *Venera 12*. *J. C. Higdon & Maarten Schmidt.* 355, 13, 87-B11 (1990)

SCHMIDTKE, P. C. CAL 87: An Eclipsing Black Hole Binary? *A. P. Cowley, P. C. Schmidtke, D. Crampton, & J. B. Hutchings.* 350, 288, 28-E4 (1990)

SCHMIDTKE, PAUL C. CAL 83: A Puzzling X-Ray Source in the Large Magellanic Cloud. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, I. B. Thompson, & James Liebert.* 321, 745, 132-F3 (1987)

The Low-Mass X-Ray Binary LMC X-2. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, & I. B. Thompson.* 355, 496, 94-F1 (1990)

SCHMIEDER, B. Evidence for Gentle Chromospheric Evaporation during the Gradual Phase of Large Solar Flares. *B. Schmieder, T. G. Forbes, J. M. Malherbe, & M. E. Machado.* 317, 956, 76-E8 (1987)

Evaporation in the Transition Region during the Gradual Phase of Flares. *B. Schmieder, J. M. Malherbe, G. M. Simnett, T. G. Forbes, & E. Tandberg-Hanssen.* 356, 720, 109-B9 (1990)

SCHMITT, B. The Temperature Dependence of the CO Infrared Band Strength in CO: H_2O Ices. *B. Schmitt, J. Mayo Greenberg, & R. J. A. Grim.* 340, L33, 75-F1 (1989)

SCHMITT, BERNARD. Ions in Grain Mantles: A New Explanation for the 6.86 Micron Absorption in W33A. *Ruud Grim, J. Mayo Greenberg, Willem Schutte, & Bernard Schmitt.* 341, L87, 100-B6 (1989)

SCHMITT, J. H. M. M. X-Ray Spectra and the Rotation-Activity Connection of RS Canum Venaticorum Binaries. *P. Majer, J. H. M. M. Schmitt, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 300, 360, 5-A5 (1986)

X-Ray Observations of Solar Flares with the *Einstein* Observatory. *J. H. M. M. Schmitt, F. R. Harnden, Jr., & H. Fink.* 322, 1023, 151-B6 (1987)

The *Einstein Observatory* Survey of Stars in the Hyades Cluster Region. *G. Micela, S. Sciortino, G. S. Vaiana, J. H. M. M. Schmitt, R. A. Stern, F. R. Harnden, Jr., & R. Rosner.* 325, 798, 29-C8 (1988)

Hydrodynamic Modeling of an X-Ray Flare on Proxima Centauri Observed by the *Einstein* Telescope. *F. Reale, G. Peres, S. Serio, R. Rosner, & J. H. M. M. Schmitt.* 328, 256, 64-G1 (1988)

X-Ray Studies of Coeval Star Samples. II. The Pleiades Cluster as Observed with the *Einstein Observatory*. *G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., R. Rosner, & J. H. M. M. Schmitt.* 348, 557, 9-E6 (1990)

X-Ray Studies of Coeval Star Samples. III. X-Ray Emission in the Ursa Major Stream. *J. H. M. M. Schmitt, G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 351, 492, 46-B11 (1990)

Contributions of Late-Type Dwarf Stars to the Soft X-Ray Diffuse Background. *J. H. M. M. Schmitt & S. L. Snowden.* 361, 207, 159-E1 (1990)

Relationship between Optical and X-Ray Properties of O-Type Stars Surveyed with the *Einstein Observatory*. *S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., M. Ramella, C. Morossi, R. Rosner, & J. H. M. M. Schmitt.* 361, 621, 165-F11 (1990)

A Color Gradient in the Soft X-Ray Diffuse Background. *S. L. Snowden, J. H. M. M. Schmitt, & B. C. Edwards.* 364, 118, 195-D11 (1990)

Einstein Observatory Coronal Temperatures of Late-Type Stars. *J. H. M. M. Schmitt, A. Collura, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 365, 704, 217-A9 (1990)

SCHMITT, JÜRGEN H. M. M. Number-Counts Slope Estimation in the Presence of Poisson Noise. *Jürgen H. M. M. Schmitt & Tommaso Maccacaro.* 310, 334, 135-F2 (1986)

SCHMITZ, MARK. The Wasilewski Sample of Emission-Line Galaxies: Follow-up CCD Imaging and Spectroscopic and *IRAS* Observations. *Gregory D. Bothun, Jules P. Halpern, Carol J. Lonsdale, Chris Impey, & Mark Schmitz.* 70, 271, 22-C7 (1989)

SCHMUTZ, W. Non-LTE Model Calculations for SN 1987A and the Extragalactic Distance Scale. *W. Schmutz, D. C. Abbott, R. S. Russell, W.-R. Hamann, & U. Wessolowski.* 355, 255, 90-A12 (1990)

SCHMUTZ, WERNER. Atmospheric Models for Luminous Blue Variables. *Claus Leitherer, Werner Schmutz, David C. Abbott, Wolf-Rainer Hamann, & Ulf Wessolowski.* 346, 919, 178-E8 (1989)

SCHMUTZLER, T. X-Ray Observations of the Starburst Galaxy M82. *R. Schaaf, W. Pietsch, P. L. Biermann, P. P. Kronberg, & T. Schmutzler.* 336, 722, 11-D1 (1989)

SCHNACK, D. D. Nonlinear Radiative Condensation in a Sheared Magnetic Field. *G. Van Hoven, L. Sparks, & D. D. Schnack.* 317, L91, 78-D9 (1987)

Dynamical Evolution of a Solar Coronal Magnetic Field Arcade. *Z. Mikić, D. C. Barnes, & D. D. Schnack.* 328, 830, 72-C4 (1988)

Creation of Current Filaments in the Solar Corona. *Z. Mikić, D. D. Schnack, & G. Van Hoven.* 338, 1148, 47-G4 (1989)

The Nonlinear Evolution of Magnetized Solar Filaments. *L. Sparks, G. Van Hoven, & D. D. Schnack.* 353, 297, 66-A1 (1990)

Prominence Formation in a Coronal Loop. *Y. Mok, J. F. Drake, D. D. Schnack, & G. Van Hoven.* 359, 228, 136-G11 (1990)

Dynamical Evolution of Twisted Magnetic Flux Tubes. I. Equilibrium and Linear Stability. *Z. Mikić, D. D. Schnack, & G. Van Hoven.* 361, 690, 166-F1 (1990)

SCHNEIDER, D. P. The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

SCHNEIDER, DONALD P. Spectroscopic CCD Surveys for Quasars at Large Redshift. I. A Deep PFUEI Survey. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 306, 411, 89-A4 (1986)

Spectroscopic CCD Surveys for Quasars at Large Redshift. II. A PFUEI Transit Survey. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 310, 518, 139-D6 (1986)

Nine Optically Selected Quasars with Redshifts Larger than 3. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 316, L1, 56-A4 (1987)

PC 0910+5625: An Optically Selected Quasar with a Redshift of 4.04. *Maarten Schmidt, Donald P. Schneider, & James E. Gunn.* 321, L7, 129-B10 (1987)

Evidence for a High-Mass White Dwarf in Nova V1500 Cygni 1975. *Keith Horne & Donald P. Schneider.* 343, 888, 130-C1 (1989)

SCHNEIDER, P. Statistical Gravitational Lensing and Quasar-Galaxy Associations. *P. Schneider.* 300, L31, 13-B6 (1986)

Amplification and Polarization of Supernovae by Gravitational Lensing. *P. Schneider & Robert V. Wagoner.* 314, 154, 29-F2 (1987)

On the Acceleration of Charged Particles at Relativistic Shock Fronts. *J. G. Kirk & P. Schneider.* 315, 425, 45-D1 (1987)

An Analytically Soluble Problem in Fully Nonlinear Statistical Gravitational Lensing. *P. Schneider.* 319, 9, 93-B1 (1987)

Particle Acceleration at Shocks: A Monte Carlo Method. *J. G. Kirk & P. Schneider.* 322, 256, 140-F2 (1987)

Gravitational Lensing Statistics of Amplified Supernovae. *Eric V. Linder, P. Schneider, & Robert V. Wagoner.* 324, 786, 12-A5 (1988)

Energetic Particle Acceleration in Spherically Symmetric Accretion Flows: Importance of a Momentum-dependent Diffusion Coefficient. *P. Schneider & T. J. Bogdan.* 347, 496, 188-B7 (1989)

Interpretation of the Microlensing Event in QSO 2237+0305. *J. Wambsganss, B. Paczyński, & P. Schneider.* 358, L33, 133-B1 (1990)

SCHNEIDER, PETER. X-Ray–selected AGNs near Bright Galaxies. *John T. Stocke, Peter Schneider, Simon L. Morris, Isabella M. Gioia, Tommaso Maccacaro, & Rudolph E. Schild.* 315, L11, 45-A14 (1987)

The Amplification Bias by Gravitational Lensing on Observed Number Counts of Quasars: Effects of a Finite Source Size. *Peter Schneider.* 316, L7, 56-A10 (1987)

Electron Injection by Relativistic Protons in Active Galactic Nuclei. *Marek Sikora, John G. Kirk, Mitchell C. Begelman, & Peter Schneider.* 320, L81, 121-B1 (1987)

Fermi Acceleration at Shocks with Arbitrary Velocity Profiles. *Peter Schneider & John G. Kirk.* 323, L87, 158-G1 (1987)

Light Propagation in Inhomogeneous Universes. *Peter Schneider & Achim Weiss.* 327, 526, 54-D9 (1988)

Cosmic-Ray Transport in Accelerating Flows. *John G. Kirk, Reinhard Schlickeiser, & Peter Schneider.* 328, 269, 65-A1 (1988)

Light Propagation in Inhomogeneous Universes: The Ray-Shooting Method. *Peter Schneider & Achim Weiss.* 330, 1, 90-A9 (1988)

A Gravitational Lens Explanation for the Arclike Structure in Cl 0500−24. *Joachim Wambsganss, Edmond Giraud, Peter Schneider, & Achim Weiss.* 337, L73, 32-B5 (1989)

SCHNEIDER, STEPHEN E. Detection of Atomic Hydrogen in the Young Planetary Nebula IC 4997. *Daniel R. Altschuler, Stephen E. Schneider, Carlo Giovanardi, & Peter R. Silverglate.* 305, L85, 80-E7 (1986)

Atomic Hydrogen in Planetary Nebulae. *Stephen E. Schneider, Peter R. Silverglate, Daniel R. Altschuler, & Carlo Giovanardi.* 314, 572, 35-G1 (1987)

The Spatial Distribution of Dwarf Galaxies in the CfA Slice of the Universe. *Trinh X. Thuan, J. Richard Gott III, & Stephen E. Schneider.* 315, L93, 49-C2 (1987)

The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

Neutral Hydrogen in the M96 Group: The Galaxies and the Intergalactic Ring. *Stephen E. Schneider.* 343, 94, 119-C10 (1989)

Northern Dwarf and Low Surface Brightness Galaxies. I. The Arecibo Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Christopher Magri, & James E. Wadiak.* 72, 245, 5-D1 (1990)

Neutral Hydrogen Absorption by Galaxies and Implications for the Soft X-Ray Background. *Edvige Corbelli & Stephen E. Schneider.* 356, 14, 99-C1 (1990)

Discovery of a Second Giant Low Surface Brightness Galaxy: Further Confirmation of Slowly Evolving Disk Galaxies. *Gregory D. Bothun, James M. Schombert, Christopher D. Impey, & Stephen E. Schneider.* 360, 427, 151-F1 (1990)

SCHNEPS, M. H. The Distance to the Center of the Galaxy: H_2O Maser Proper Motions in Sagittarius B2(N). *M. J. Reid, M. H. Schneps, J. M. Moran, C. R. Gwinn, R. Genzel, D. Downes, & B. Rönnäng.* 330, 809, 101-D7 (1988)

Limits on Refractive Interstellar Scattering toward Sagittarius B2. *C. R. Gwinn, J. M. Moran, M. J. Reid, & M. H. Schneps.* 330, 817, 101-E1 (1988)

VLBI Observations of the Water Vapor Maser in the Nucleus of NGC 3079. *A. D. Haschick, W. A. Baan, M. H. Schneps, M. J. Reid, J. M. Moran, & R. Güsten.* 356, 149, 100-G9 (1990)

SCHNOPPER, H. W. X-Ray Spectrum of the 2A 0335+096 Cluster of Galaxies. *K. P. Singh, N. J. Westergaard, & H. W. Schnopper.* 308, L51, 120-E14 (1986)

X-Ray Observations of the Supernova Remnant N103B in the Large Magellanic Cloud. *K. P. Singh, N. J. Westergaard, H. W. Schnopper, & D. J. Helfand.* 322, 80, 138-G3 (1987)

EXOSAT Observations of the Hot Gas in the A1060 Cluster of Galaxies. *K. P. Singh, N. J. Westergaard, & H. W. Schnopper.* 330, 620, 99-C4 (1988)

Cooling Flow in the 2A 0335+096 Cluster of Galaxies. *K. P. Singh, N. J. Westergaard, & H. W. Schnopper.* 331, 672, 116-B13 (1988)

Ginga Observations of X-Rays from the Seyfert I Galaxy Markarian 509. *K. P. Singh, N. J. Westergaard, H. W. Schnopper, H. Awaki, & Y. Tawara.* 363, 131, 183-F10 (1990)

SCHNOPPER, HERBERT W. An Upper Limit to X-Ray Emission from Saturn. *David A. Gilman, Kevin C. Hurley, Frederick D. Seward, Herbert W. Schnopper, James D. Sullivan, & Albert E. Metzger.* 300, 453, 6-A9 (1986)

SCHÖNBERNER, D. On the Nature of Newly Formed Dust around the Hydrogen-deficient Star V348 Sagittarii. *J. S. Drilling & D. Schönberner.* 343, L45, 132-B9 (1989)

SCHÖNFELDER, V. Centaurus A Observation at MeV–Gamma-Ray Energies. *P. von Ballmoos, R. Diehl, & V. Schönfelder.* 312, 134, 2-D11 (1987)

Map of the Galactic Center Region in the 1.8 MeV ^{26}Al Gamma-Ray Line. *P. von Ballmoos, R. Diehl, & V. Schönfelder.* 318, 654, 88-B1 (1987)
Search for Gamma-Ray Continuum Emission at MeV Energies from the Galactic Center Region. *V. Schönfelder, P. von Ballmoos, & R. Diehl.* 335, 748, 180-G5 (1988)
MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)
SCHOMBERT, J. M. The Circumstellar Environment of the Emission-Line Star, LkHα 101. *M. Barsony, N. Z. Scoville, J. M. Schombert, & M. J. Claussen.* 362, 674, 179-B6 (1990)
SCHOMBERT, JAMES M. The Structure of Brightest Cluster Members. I. Surface Photometry. *James M. Schombert.* 60, 603, 9-A5 (1986)
The Structure of Brightest Cluster Members. II. Mergers. *James M. Schombert.* 64, 643, 26-G2 (1987)
Narrow-Band Photometry and the Evolution of Galaxies. II. Results for the Fields of A115 and A227. *Karl D. Rakos, Norbert Fiala, & James M. Schombert.* 328, 463, 68-B1 (1988)
The Structure of Brightest Cluster Members. III. cD Envelopes. *James M. Schombert.* 328, 475, 68-C1 (1988)
Bound Populations around cD Galaxies. *Gregory D. Bothun & James M. Schombert.* 335, 617, 179-C6 (1988)
The Clustering of Dwarf Galaxies. *Jo Ann Eder, James M. Schombert, Avishai Dekel, & Augustus Oemler, Jr.* 340, 29, 67-C10 (1989)
Discovery of a Second Giant Low Surface Brightness Galaxy: Further Confirmation of Slowly Evolving Disk Galaxies. *Gregory D. Bothun, James M. Schombert, Christopher D. Impey, & Stephen E. Schneider.* 360, 427, 151-F1 (1990)
More Bound Populations around cD Galaxies. *Gregory D. Bothun & James M. Schombert.* 360, 436, 151-F11 (1990)
A Morphology-Density Relation for Clusters of Galaxies. *James M. Schombert & Michael J. West.* 363, 331, 188-C1 (1990)
SCHOMMER, R. A. A Distance Scale from the Infrared Magnitude/H I Velocity-Width Relation. V. Distance Moduli to 10 Galaxy Clusters, and Positive Detection of Bulk Supercluster Motion toward the Microwave Anisotropy. *M. Aaronson, G. Bothun, J. Mould, J. Huchra, R. A. Schommer, & M. E. Cornell.* 302, 536, 36-D4 (1986)
CCD Photometry of Large Magellanic Cloud Clusters. III. The Unique, Remote Cluster ESO 121-SC03. *Mario Mateo, Paul Hodge, & R. A. Schommer.* 311, 113, 147-C4 (1986)
The H I Distribution and Kinematics in Four Low-Luminosity Elliptical Galaxies. *George Lake, R. A. Schommer, & J. H. van Gorkom.* 314, 57, 28-E12 (1987)
Forbidden [O II] and [O III] Emission 29″ from a QSO Absorption-Line Region. *Brian Yanny, Don Hamilton, R. A. Schommer, T. B. Williams, & D. G. York.* 323, L19, 158-B7 (1987)
Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)
Peculiar Velocities in Large-Scale Structure: The Problem of Incomplete Sampling. *Gregory D. Bothun, Michael J. West, Jeremy R. Mould, & R. A. Schommer.* 353, 344, 68-D3 (1990)
SCHOMMER, ROBERT A. A Search for the Sunyaev-Zel'dovich Effect at $\lambda = 3$ Millimeters. *Simon J. E. Radford, Paul E. Boynton, Bobby L. Ulich, R. Bruce Partridge, Robert A. Schommer, Antony A. Stark, Robert W. Wilson, & Stephen S. Murray.* 300, 159, 2-F13 (1986)
Ionized Gas and Radio Emission in the Barred Seyfert Galaxy NGC 5728. *Robert A. Schommer, Nelson Caldwell, A. S. Wilson, J. A. Baldwin, M. M. Phillips, T. B. Williams, & A. J. Turtle.* 324, 154, 2-F9 (1988)
Velocities of Stars in Remote Galactic Satellites and the Mass of the Galaxy. *Dennis Zaritsky, Edward W. Olszewski, Robert A. Schommer, Ruth C. Peterson, & Marc Aaronson.* 345, 759, 160-B8 (1989)
SCHRAMM, D. N. Resonant Neutrino Oscillations and Stellar Collapse. *G. M. Fuller, R. W. Mayle, J. R. Wilson, & D. N. Schramm.* 322, 795, 148-E3 (1987)
Thorium/Neodymium Cosmochronology and Galactic Chemical Evolution. *G. J. Mathews & D. N. Schramm.* 324, L67, 18-D1 (1988)
SCHRAMM, DAVID. Primordial Lithium: New Reaction Rates, New Abundances, New Constraints. *Lawrence Kawano, David Schramm, & Gary Steigman.* 327, 750, 56-G4 (1988)
SCHRAMM, DAVID N. Destruction of ^{3}He in Stars. *D. S. P. Dearborn, David N. Schramm, & Gary Steigman.* 302, 35, 28-C13 (1986)
Percolation of Explosive Galaxy Formation. *Jane C. Charlton & David N. Schramm.* 310, 26, 132-C8 (1986)
General Constraints on the Age and Chemical Evolution of the Galaxy. *Bradley S. Meyer & David N. Schramm.* 311, 406, 150-E1 (1986)
Neutrino Emission by the Pair, Plasma, and Photo Processes in the Weinberg-Salam Model. *Paul J. Schinder, David N. Schramm, Paul J. Wiita, Steven H. Margolis, & David L. Tubbs.* 313, 531, 22-E9 (1987)
Neutrinos from Gravitational Collapse. *Ron Mayle, James R. Wilson, & David N. Schramm.* 318, 288, 82-A11 (1987)
Cosmic String Induced Peculiar Velocities. *Anthony van Dalen & David N. Schramm.* 326, 70, 32-F9 (1988)
The Lithium Isotope Ratio in Population II Halo Dwarfs: A Proposed Test of the Late Decaying Massive Particle Nucleosynthesis Scenario. *Lawrence Brown & David N. Schramm.* 329, L103, 89-F2 (1988)
Photoerosion and the Abundances of the Light Elements. *Richard N. Boyd, Gary J. Ferland, & David N. Schramm.* 336, L1, 8-B10 (1989)
On Relative Supernova Rates and Nucleosynthesis Roles. *W. David Arnett, David N. Schramm, & James W. Truran.* 339, L25, 58-C5 (1989)
The Shocking Development of Lithium (and Boron) in Supernovae. *David S. P. Dearborn, David N. Schramm, Gary Steigman, & James Truran.* 347, 455, 187-F5 (1989)
Big Bang Nucleosynthesis and the Quark-Hadron Transition. *Hannu Kurki-Suonio, Richard A. Matzner, Keith A. Olive, & David N. Schramm.* 353, 406, 69-B1 (1990)
Main-Sequence Mass Loss and the Lithium Dip. *David N. Schramm, Gary Steigman, & David S. P. Dearborn.* 359, L55, 144-C6 (1990)
SCHRAMM, S. Pycnonuclear Fusion Rates. *S. Schramm & S. E. Koonin.* 365, 296, 210-B1 (1990)
SCHREIER, E. J. X-Rays from the Radio Halo of M87. *E. D. Feigelson, P. A. D. Wood, E. J. Schreier, D. E. Harris, & M. J. Reid.* 312, 101, 2-B5 (1987)
SCHRIJVER, C. J. Relations between the Photospheric Magnetic Field and the Emission from the Outer Atmospheres of Cool Stars. I. The Solar Ca II K Line Core Emission. *C. J. Schrijver, J. Coté, C. Zwaan, & S. H. Saar.* 337, 964, 30-F12 (1989)
Coronal Activity in F-, G-, and K-Type Stars. III. The Coronal Differential Emission Measure Distribution of Capella, σ^2 Coronae Borealis, and Procyon. *J. R. Lemen, R. Mewe, C. J. Schrijver, & A. Fludra.* 341, 474, 89-F11 (1989)
Coronal Activity in F-, G-, and K-Type Stars. IV. Evidence for Expanding Loop Geometries in Stellar Coronae. *C. J. Schrijver, J. R. Lemen, & R. Mewe.* 341, 484, 89-G8 (1989)
The Magnetic, Basal, and Radiative Equilibrium Components in Mount Wilson Ca II H+K Fluxes. *C. J. Schrijver, Andrea K. Dobson, & Richard R. Radick.* 341, 1035, 98-A2 (1989)
The Distribution of Solar Magnetic Fluxes and the Nonlinearity of Stellar Flux-Flux Relations. *C. J. Schrijver & K. L. Harvey.* 343, 481, 124-A6 (1989)
SCHROEDER, MICHAEL C. Star Formation in Very Young Galactic Clusters. *Michael C. Schroeder & Neil F. Comins.* 326, 756, 41-G12 (1988)
Relaxation Times in Two-dimensional Galaxy Simulations. *Michael C. Schroeder & Neil F. Comins.* 346, 108, 167-D1 (1989)
SCHULMAN, LAWRENCE S. Hierarchical Structure in the Distribution of Galaxies. *Lawrence S. Schulman & Philip E. Seiden.* 311, 1, 146-A7 (1986)
SCHULTE-LADBECK, R. E. A Rotating, Expanding Disk in the Wolf-Rayet Star EZ Canis Majoris? *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. A. Nook, A. M. Magalhães, M. Taylor, K. S. Bjorkman, & C. M. Anderson.* 365, L19, 212-C1 (1990)

SCHULTE-LADBECK, REGINA E. Polarimetry of Four Wolf-Rayet Stars. *Regina E. Schulte-Ladbeck & Karel A. van der Hucht.* 337, 872, 29-F10 (1989)

SCHULTZ, J. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

SCHULZ, A. The Bipolar Molecular Outflow of V645 Cygni. *A. Schulz, J. H. Black, C. J. Lada, B. L. Ulich, R. N. Martin, R. L. Snell, & N. J. Erickson.* 341, 288, 87-D9 (1989)

A Highly Collimated Outflow in the Core of OMC-1. *J. Schmid-Burgk, R. Güsten, R. Mauersberger, A. Schulz, & T. L. Wilson.* 362, L25, 174-C11 (1990)

SCHULZ, ANDREAS. Submillimeter Observations of CS in M17. *Ronald L. Snell, Neal R. Erickson, Paul F. Goldsmith, Bobby L. Ulich, Charles J. Lada, Robert N. Martin, & Andreas Schulz.* 304, 780, 64-F4 (1986)

SCHUNK, R. W. Discrete Events and Solar Wind Energization. *W.-H. Yang & R. W. Schunk.* 343, 494, 124-B12 (1989)

SCHUSTER, R. Current Density Effects and the Importance of Charge Transfer Processes in the Radiolysis of Methane: Astrophysical Implications. *N. J. Sack, R. Schuster, A. Hofmann, A. Khedim, & R. Koppmann.* 360, 305, 148-G1 (1990)

SCHUTTE, W. A. Theoretical Studies of the Infrared Emission from Circumstellar Dust Shells: The Infrared Characteristics of Circumstellar Silicates and the Mass-Loss Rate of Oxygen-rich Late-Type Giants. *W. A. Schutte & A. G. G. M. Tielens.* 343, 369, 122-F6 (1989)

The Anomalous 3.43 and 3.53 Micron Emission Features toward HD 97048 and Elias 1: C-C Vibrational Modes of Polycyclic Aromatic Hydrocarbons? *W. A. Schutte, A. G. G. M. Tielens, L. J. Allamandola, M. Cohen, & D. H. Wooden.* 360, 577, 153-D5 (1990)

SCHUTTE, WILLEM. Ions in Grain Mantles: A New Explanation for the 6.86 Micron Absorption in W33A. *Ruud Grim, J. Mayo Greenberg, Willem Schutte, & Bernard Schmitt.* 341, L87, 100-B6 (1989)

SCHWARTZ, D. A. The Discovery of Eight Bright Active Galactic Nuclei Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, H. V. Bradt, D. A. H. Buckley, W. Roberts, D. A. Schwartz, I. R. Tuohy, & K. Wood.* 301, 742, 23-F5 (1986)

H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

H0538+608: A Bright AM Herculis–Type X-Ray Source. *R. A. Remillard, H. V. Bradt, J. E. McClintock, J. Patterson, W. Roberts, D. A. Schwartz, & S. Tapia.* 302, L11, 35-A13 (1986)

Identification of Two Southern X-Ray Emitting Cataclysmic Variables. *I. R. Tuohy, D. A. H. Buckley, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 311, 275, 149-A12 (1986)

Discovery of Three New RS Canum Venaticorum–like Counterparts to *HEAO 1* X-Ray Sources. *D. A. H. Buckley, I. R. Tuohy, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 315, 273, 42-G14 (1987)

Production of the Diffuse X-Ray Background Spectrum by Active Galactic Nuclei. *D. A. Schwartz & W. H. Tucker.* 332, 157, 124-G1 (1988)

Two X-Ray–selected BL Lacertae Objects Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, I. R. Tuohy, R. J. V. Brissenden, D. A. H. Buckley, D. A. Schwartz, E. D. Feigelson, & S. Tapia.* 345, 140, 150-F11 (1989)

H1722+119: A Highly Polarized X-Ray–selected BL Lacertae Object. *R. J. V. Brissenden, R. A. Remillard, I. R. Tuohy, D. A. Schwartz, & P. L. Hertz.* 350, 578, 33-D1 (1990)

SCHWARTZ, DANIEL A. The X-Ray Background and the Evolution of Quasars. *Wallace H. Tucker & Daniel A. Schwartz.* 308, 53, 108-E11 (1986)

Use of a Minimum Rate of Change Formalism to Quantify Variability of Extragalactic X-Ray Sources. *Daniel A. Schwartz.* 318, 568, 87-B7 (1987)

Studies of BL Lacertae Objects with the *Einstein Observatory*: The Soft X-Ray Spectra of OJ 287 and PKS 0735+178. *Greg M. Madejski & Daniel A. Schwartz.* 330, 776, 101-B1 (1988)

SCHWARTZ, P. Far-Infrared and Radio Observations of DR 6, DR 7, and DR 22. *S. Odenwald, K. Shivanandan, M. Campbell, G. Fazio, P. Schwartz, & H. Moseley.* 306, 122, 82-E7 (1986)

SCHWARTZ, P. R. The T Tauri Radio Sources. II. The Winds of T Tauri. *P. R. Schwartz, Theodore Simon, & Robert Campbell.* 303, 233, 43-F3 (1986)

Luminosities of Sources Associated with Molecular Outflows. *David Mozurkewich, P. R. Schwartz, & Howard A. Smith.* 311, 371, 150-B12 (1986)

Infrared Line Observations of Low-Luminosity Outflow Sources. *Howard A. Smith, J. Fischer, T. R. Geballe, & P. R. Schwartz.* 316, 265, 52-G12 (1987)

1300 Micron Continuum and $C^{18}O$ Line Mapping of the Giant Molecular Cloud Cores in Orion, W49, and W51. *F. Peter Schloerb, Ronald L. Snell, & P. R. Schwartz.* 319, 426, 97-G5 (1987)

Star-forming Loops in the *IRAS* Sky Images. *P. R. Schwartz.* 320, 258, 111-A1 (1987)

CO Pedestal Features from IRAS Sources in Dark Clouds. *P. R. Schwartz, Graham Gee, & Y.-L. Huang.* 327, 350, 50-G4 (1988)

1300 Micron Continuum and $C^{18}O$ Line Mapping of Giant Molecular Cloud Cores. II. W3, NGC 2264, NGC 6334I, Rho Ophiuchi, and S140. *P. R. Schwartz, Ronald L. Snell, & F. Peter Schloerb.* 336, 519, 7-F1 (1989)

Jets and Bullets in S140. *P. R. Schwartz.* 338, L25, 40-D9 (1989)

Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)

Five Unusual Compact CO Sources in the Cygnus X Region. *S. F. Odenwald & P. R. Schwartz.* 345, L47, 157-E1 (1989)

SCHWARTZ, R. A. High Spectral Resolution Measurements of a Solar Flare Hard X-Ray Burst. *R. P. Lin & R. A. Schwartz.* 312, 462, 6-A1 (1987)

Gamma-Ray Burst Localization by *HEAO 3*. *R. A. Schwartz, J. C. Ling, W. A. Mahoney, & A. S. Jacobson.* 317, 846, 75-C7 (1987)

Observations of A0535+26 with the *SMM* Satellite. *S. Sembay, R. A. Schwartz, S. R. Davies, L. E. Orwig, & B. R. Dennis.* 351, 675, 48-E1 (1990)

SCHWARTZ, R. D. Line Identifications in the Infrared Spectrum of SN 1987A. *J. H. Elias, B. Gregory, M. M. Phillips, R. E. Williams, James R. Graham, W. P. S. Meikle, R. D. Schwartz, & B. Wilking.* 331, L9, 114-B1 (1988)

SCHWARTZ, RICHARD. The Exciting Star of HH 57. *Martin Cohen, Michael A. Dopita, & Richard Schwartz.* 302, L55, 40-E4 (1986)

The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)

SCHWARTZ, RICHARD D. The Circumstellar Environment of LkHα 234. *Bruce A. Wilking, Lee G. Mundy, & Richard D. Schwartz.* 303, L61, 53-D11 (1986)

Optical Spectroscopy of HH-exciting Stars from Scattered Light Continua. *Martin Cohen, Michael A. Dopita, & Richard D. Schwartz.* 307, L21, 100-B8 (1986)

IRAS Observations of the Exciting Stars of Herbig-Haro Objects. *Martin Cohen & Richard D. Schwartz.* 316, 311, 53-D3 (1987)

Near-Infrared H_2 Emission from Herbig-Haro Objects. I. A Survey of Low-Excitation Objects. *Richard D. Schwartz, Martin Cohen, & Peredur M. Williams.* 322, 403, 142-C2 (1987)

Near-Infrared H_2 Emission from Herbig-Haro Objects. I. A Survey of Low-Excitation Objects: Erratum. *Richard D. Schwartz, Martin Cohen, & Peredur M. Williams.* 333, 1035, 151-F14 (1988) (Orig. paper in 322, 403, 142-C2 (1987))

High-Resolution Infrared Molecular Hydrogen Images and Optical Images of Herbig-Haro Object 43. *Richard D. Schwartz, Peredur M. Williams, Martin Cohen, & Donald G. Jennings.* 334, L99, 169-E10 (1988)

SCHWARZ, HUGO E. He 2–104: A Symbiotic Proto–Planetary Nebula? *Hugo E. Schwarz, Colin Aspin, & Julie H. Lutz.* 344, L29, 140-C8 (1989)

SCHWARZ, U. J. Aperture Synthesis Observations of the 21 Centimeter Zeeman Effect toward Cassiopeia A. *U. J. Schwarz, T. H. Troland, J. S. Albinson, J. D. Bregman, W. M. Goss, & Carl Heiles.* 301, 320, 17-D4 (1986)

Radio Studies of the Galactic Center. I. The Sagittarius A Complex. *A. Pedlar, K. R. Anantharamaiah, R. D. Ekers, W. M. Goss, J. H. van Gorkom, U. J. Schwarz, & Jun-hui Zhao.* 342, 769, 112-A1 (1989)

SCHWARZSCHILD, M. Nonuniqueness of Self-consistent Equilibrium Solutions for the Perfect Elliptic Disk. *P. T. de Zeeuw, C. Hunter, & M. Schwarzschild.* 317, 607, 72-F11 (1987)

On the Orbit Structure of the Logarithmic Potential. *Jordi Miralda-Escudé & M. Schwarzschild.* 339, 752, 61-B5 (1989)

Prolate Galaxy Models with Thin-Tube Orbits. *C. Hunter, P. T. de Zeeuw, Ch. Park, & M. Schwarzschild.* 363, 367, 188-F1 (1990)

SCHWARZSCHILD, MARTIN. Dynamical Models for Galactic Bars: Truncated Perfect Elliptic Disk. *Martin Schwarzschild.* 311, 511, 153-C1 (1986)

Orbital Contributions to the Stability of Triaxial Galaxies. *Tim de Zeeuw & Martin Schwarzschild.* 345, 84, 150-A8 (1989)

SCHWEHM, G. Hydrogenated Amorphous Carbon Grains in Comet Halley? *L. Colangeli, G. Schwehm, E. Bussoletti, S. Fonti, A. Blanco, & V. Orofino.* 348, 718, 11-D4 (1990)

SCHWEIZER, FRANÇOIS. The Shape of the Dark Halo in Polar-Ring Galaxies. *Bradley C. Whitmore, Douglas B. McElroy, & François Schweizer.* 314, 439, 34-C9 (1987)

The Structure and Evolution of Hoag's Object. *François Schweizer, W. Kent Ford, Jr., Robert Jedrzejewski, & Riccardo Giovanelli.* 320, 454, 114-D3 (1987)

Ripples in Disk Galaxies. *François Schweizer & Patrick Seitzer.* 328, 88, 63-A1 (1988)

The Neutral Hydrogen Ring, Mass-to-Light Ratio, and Dark Halo of the Elliptical Galaxy IC 2006. *François Schweizer, Jacqueline H. van Gorkom, & Patrick Seitzer.* 338, 770, 43-D3 (1989)

Correlations between Line Strengths and Fine Structure in Elliptical Galaxies. *François Schweizer, Patrick Seitzer, S. M. Faber, David Burstein, Cristina M. Dalle Ore, & J. Jesus Gonzalez.* 364, L33, 205-C13 (1990)

SCHWEIZER, LINDA Y. Mass-to-Light Ratios of Binary Galaxies. I. Radial Velocities. *Linda Y. Schweizer.* 64, 411, 22-D3 (1987)

Mass-to-Light Ratios of Binary Galaxies. II. Photoelectric *BV* Photometry. *Linda Y. Schweizer.* 64, 417, 22-D9 (1987)

Mass-to-Light Ratios of Binary Galaxies. III. Analysis. *Linda Y. Schweizer.* 64, 427, 22-E4 (1987)

SCHWERING, P. B. W. Two Supergiants in the Large Magellanic Cloud with Thick Dust Shells. *J. H. Elias, Jay A. Frogel, & P. B. W. Schwering.* 302, 675, 38-A8 (1986)

SCIAMA, D. W. Dark Matter Decay and the Ionization of H I Regions in the Galaxy. *D. W. Sciama.* 364, 549, 203-A1 (1990)

SCIORTINO, S. Multiband Far-Infrared Observations of the NGC 6334 Complex. *L. Loughran, B. McBreen, G. G. Fazio, T. N. Rengarajan, C. W. Maxson, S. Serio, S. Sciortino, & T. P. Ray.* 303, 629, 49-D3 (1986)

Variability Analysis in Low Count Rate Sources. *A. Collura, A. Maggio, S. Sciortino, S. Serio, G. S. Vaiana, & R. Rosner.* 315, 340, 43-E11 (1987)

Einstein Observatory Survey of X-Ray Emission from Solar-Type Stars: The Late F and G Dwarf Stars. *A. Maggio, S. Sciortino, G. S. Vaiana, P. Majer, J. Bookbinder, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 315, 687, 48-B8 (1987)

The Stellar Composition of X-Ray Surveys from the *Einstein Observatory*. *F. Favata, R. Rosner, S. Sciortino, & G. S. Vaiana.* 324, 1010, 14-E13 (1988)

The *Einstein Observatory* Survey of Stars in the Hyades Cluster Region. *G. Micela, S. Sciortino, G. S. Vaiana, J. H. M. M. Schmitt, R. A. Stern, F. R. Harnden, Jr., & R. Rosner.* 325, 798, 29-C8 (1988)

Variability of X-Ray Emission from OB Stars. *A. Collura, S. Sciortino, S. Serio, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 338, 296, 36-E7 (1989)

The *Einstein X-Ray Observatory* Catalog of O-Type Stars. *T. Chlebowski, F. R. Harnden, Jr., & S. Sciortino.* 341, 427, 89-B4 (1989)

X-Ray Studies of Coeval Star Samples. II. The Pleiades Cluster as Observed with the *Einstein Observatory*. *G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., R. Rosner, & J. H. M. M. Schmitt.* 348, 557, 9-E6 (1990)

X-Ray Studies of Coeval Star Samples. III. X-Ray Emission in the Ursa Major Stream. *J. H. M. M. Schmitt, G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 351, 492, 46-B11 (1990)

Relationship between Optical and X-Ray Properties of O-Type Stars Surveyed with the *Einstein Observatory*. *S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., M. Ramella, C. Morossi, R. Rosner, & J. H. M. M. Schmitt.* 361, 621, 165-F11 (1990)

Einstein Observatory Coronal Temperatures of Late-Type Stars. *J. H. M. M. Schmitt, A. Collura, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 365, 704, 217-A9 (1990)

SCIORTINO, SALVATORE. Rapid, Low-Level X-Ray Variability in Active Late-Type Dwarfs. *Carol W. Ambruster, Salvatore Sciortino, & L. Golub.* 65, 273, 32-B4 (1987)

SCOTT, BRUCE D. A Cascade Model for Turbulent Dissipation in Convection-Accretion Disks. *Bruce D. Scott.* 357, L53, 121-E9 (1990)

SCOTT, H. A. The Origin of the Photoionizing Continuum of Active Galactic Nuclei and Quasars. *S. L. O'Dell, H. A. Scott, & W. A. Stein.* 313, 164, 16-F14 (1987)

SCOTT, S. Molecular Spiral Structure in M51. *K. Y. Lo, R. Ball, C. R. Masson, T. G. Phillips, S. Scott, & D. P. Woody.* 317, L63, 78-B11 (1987)

A Possible Protostar near HH 7–11. *E. N. Grossman, C. R. Masson, A. I. Sargent, N. Z. Scoville, S. Scott, & D. P. Woody.* 320, 356, 112-A1 (1987)

SCOTT, S. L. Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)

Millimeter Interferometry of the Molecular Gas in Arp 220. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, S. L. Scott, & K. Y. Lo.* 311, L47, 160-C1 (1986)

Molecular Gas in the Starburst Nucleus of M82. *K. Y. Lo, K. W. Cheung, C. R. Masson, T. G. Phillips, S. L. Scott, & D. P. Woody.* 312, 574, 9-B7 (1987)

Interferometric Observations of 1.4 Millimeter Continuum Sources. *D. P. Woody, S. L. Scott, N. Z. Scoville, L. G. Mundy, A. I. Sargent, S. Padin, C. G. Tinney, & C. D. Wilson.* 337, L41, 25-D5 (1989)

Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at $\gamma = 1.4$ Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)

SCOVILLE, N. Z. Massachusetts–Stony Brook Galactic Plane CO Survey. I. (*b,V*) Maps of the First Galactic Quadrant. *D. B. Sanders, D. P. Clemens, N. Z. Scoville, & P. M. Solomon.* 60, 1, 1-A3 (1986)

Massachusetts–Stony Brook Galactic Plane CO Survey. II. (*l,V*) Maps of the First Galactic Quadrant. *D. P. Clemens, D. B. Sanders, N. Z. Scoville, & P. M. Solomon.* 60, 297, 4-A5 (1986)

High-Resolution Mapping of Molecular Outflows in NGC 2071, W49, and NGC 7538. *N. Z. Scoville, A. I. Sargent, D. B. Sanders, M. J. Claussen, C. R. Masson, K. Y. Lo, & T. G. Phillips.* 303, 416, 45-F2 (1986)

Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, J. S. Young, B. T. Soifer, F. P. Schloerb, W. L. Rice, & G. E. Danielson.* 305, L45, 80-B12 (1986)

Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)

Small-Scale Structure of the Circumstellar Gas of HL Tauri and R Monocerotis. *S. Beckwith, A. I. Sargent, N. Z. Scoville, C. R. Masson, B. Zuckerman, & T. G. Phillips.* 309, 755, 129-E3 (1986)
High-Mass Star Formation Due to Cloud-Cloud Collisions. *N. Z. Scoville, D. B. Sanders, & D. P. Clemens.* 310, L77, 145-B4 (1986)
Millimeter Interferometry of the Molecular Gas in Arp 220. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, S. L. Scott, & K. Y. Lo.* 311, L47, 160-C1 (1986)
Detection of CO(1 → 0) Emission and Optical Imaging of the Seyfert Galaxy/QSO Markarian 231. *D. B. Sanders, J. S. Young, N. Z. Scoville, B. T. Soifer, & G. E. Danielson.* 312, L5, 7-A8 (1987)
Compact Molecular Gas Structure in the Interacting Galaxy Pair Arp 299 (IC 694–NGC 3690). *A. I. Sargent, D. B. Sanders, N. Z. Scoville, & B. T. Soifer.* 312, L35, 14-B1 (1987)
The Molecular Cloud Ring in NGC 1068. *Steven T. Myers & N. Z. Scoville.* 312, L39, 14-B6 (1987)
Where Massive Stars Form: Associated Radio H II Regions and CO Clouds in the Northern Milky Way. *W. H. Waller, D. P. Clemens, D. B. Sanders, & N. Z. Scoville.* 314, 397, 32-E4 (1987)
Molecular Clouds and the Gould Belt. *David K. Taylor, R. L. Dickman, & N. Z. Scoville.* 315, 104, 41-B5 (1987)
Molecular Clouds and Cloud Cores in the Inner Galaxy. *N. Z. Scoville, Min Su Yun, D. P. Clemens, D. B. Sanders, & W. H. Waller.* 63, 821, 13-G12 (1987)
Radial Velocities of Late-Type Stars in the Galactic Center. *K. Sellgren, D. N. B. Hall, S. G. Kleinmann, & N. Z. Scoville.* 317, 881, 75-F5 (1987)
CO Maps of the OMC-1 Outflow. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 319, 446, 98-A11 (1987)
A Possible Protostar near HH 7–11. *E. N. Grossman, C. R. Masson, A. I. Sargent, N. Z. Scoville, S. Scott, & D. P. Woody.* 320, 356, 112-A1 (1987)
Aperture Synthesis Mapping of Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, A. I. Sargent, & B. T. Soifer.* 324, L55, 18-B13 (1988)
Ultraluminous Infrared Galaxies and the Origin of Quasars. *D. B. Sanders, B. T. Soifer, J. H. Elias, B. F. Madore, K. Matthews, G. Neugebauer, & N. Z. Scoville.* 325, 74, 19-G6 (1988)
CO Maps of the OMC-1 Outflow: Erratum. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 446, 98-A11 (1987))
The Large-Scale Distribution of Molecular Gas in the First Galactic Quadrant. *D. P. Clemens, D. B. Sanders, & N. Z. Scoville.* 327, 139, 48-E1 (1988)
The Stellar Bar in NGC 1068. *N. Z. Scoville, K. Matthews, D. P. Carico, & D. B. Sanders.* 327, L61, 61-C7 (1988)
Detection of Abundant Molecular Gas in the UV-Excess Quasar Markarian 1014. *D. B. Sanders, N. Z. Scoville, & B. T. Soifer.* 335, L1, 177-A6 (1988)
Interferometric Observations of 1.4 Millimeter Continuum Sources. *D. P. Woody, S. L. Scott, N. Z. Scoville, L. G. Mundy, A. I. Sargent, S. Padin, C. G. Tinney, & C. D. Wilson.* 337, L41, 25-D5 (1989)
Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at $\gamma = 1.4$ Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)
The Far-Infrared Luminosity of Molecular Clouds in the Galaxy. *N. Z. Scoville & J. C. Good.* 339, 149, 51-G5 (1989)
No Molecular Gas Disk in S106. *M. Barsony, N. Z. Scoville, J. Bally, & M. J. Claussen.* 343, 212, 120-G4 (1989)
Aperture Synthesis of CO Emission in Extremely Luminous Infrared Galaxies. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, & C. G. Tinney.* 345, L25, 157-C2 (1989)
CO Aperture Synthesis of NGC 4038/39 (Arp 244). *S. A. Stanford, A. I. Sargent, D. B. Sanders, & N. Z. Scoville.* 349, 492, 21-D1 (1990)
Molecular Gas in Intermediate Luminosity *IRAS* Galaxies. *C. G. Tinney, N. Z. Scoville, D. B. Sanders, & B. T. Soifer.* 362, 473, 176-D5 (1990)
The Circumstellar Environment of the Emission-Line Star, LkHα 101. *M. Barsony, N. Z. Scoville, J. M. Schombert, & M. J. Claussen.* 362, 674, 179-B6 (1990)

SCOVILLE, NICHOLAS Z. Protostellar Condensations within the Orion Ridge. *Lee G. Mundy, Nicholas Z. Scoville, Lars B. Bååth, Colin R. Masson, & David P. Woody.* 304, L51, 66-C2 (1986)
High-Resolution Images of the Orion Molecular Ridge in the CS $J = 2$–1 Transition. *Lee G. Mundy, T. J. Cornwell, Colin R. Masson, Nicholas Z. Scoville, Lars B. Bååth, & Lars E. B. Johansson.* 325, 382, 23-D3 (1988)
The Molecular Gas Bar in NGC 253. *Blaise Canzian, Lee G. Mundy, & Nicholas Z. Scoville.* 333, 157, 139-F7 (1988)
SCOVILLE, NICK. Infrared Characteristics of the Nuclei of Normal Galaxies. *Nicholas A. Devereux, E. E. Becklin, & Nick Scoville.* 312, 529, 8-F3 (1987)
Molecular and Ionized Gas in the Peculiar Galaxy NGC 2146. *Judith S. Young, M. J. Claussen, S. G. Kleinmann, Vera C. Rubin, & Nick Scoville.* 331, L81, 121-D4 (1988)
The Evolution of Starburst Galaxies to Active Galactic Nuclei. *Colin Norman & Nick Scoville.* 332, 124, 124-D8 (1988)
Broad Emission Lines From the Mass-Loss Envelopes of Giant Stars in Active Galactic Nuclei. *Nick Scoville & Colin Norman.* 332, 163, 124-G7 (1988)
Observations of Individual Star-forming Regions in the Nucleus of M33. *Christine D. Wilson, Nick Scoville, Wendy L. Freedman, Barry F. Madore, & D. B. Sanders.* 333, 611, 146-F8 (1988)
The Molecular Gas Content of the Nuclear Region of M33. *Christine D. Wilson & Nick Scoville.* 347, 743, 192-E7 (1989)
The Properties of Individual Giant Molecular Clouds in M33. *Christine D. Wilson & Nick Scoville.* 363, 435, 189-E1 (1990)
SCOVILLE, NICK Z. Molecular Clouds in the Nuclear Region of NGC 3079. *Judith S. Young, M. J. Claussen, & Nick Z. Scoville.* 324, 115, 2-C6 (1988)
SCOWEN, PAUL. Age Structure of Refractory Interstellar Dust and Isotopic Consequences. *Donald D. Clayton, Paul Scowen, & Kurt Liffman.* 346, 531, 172-F11 (1989)
SEAB, C. G. Shock Processing of Interstellar Dust: Diamonds in the Sky. *A. G. G. M. Tielens, C. G. Seab, D. J. Hollenbach, & Christopher F. McKee.* 319, L109, 107-G6 (1987)
SEAB, C. GREGORY. Interstellar Abundances in Dense, Moderately Reddened Lines of Sight. I. Observational Evidence for Density-dependent Depletion. *Charles L. Joseph, Theodore P. Snow, Jr., C. Gregory Seab, & Richard M. Crutcher.* 309, 771, 129-F6 (1986)
The Structure of Time-dependent Interstellar Shocks and Grain Destruction in the Interstellar Medium. *Christopher F. McKee, David J. Hollenbach, C. Gregory Seab, & A. G. G. M. Tielens.* 318, 674, 88-C7 (1987)
The Growth of Thermal Instabilities in Cooling Flows. *Laurence P. David, Joel N. Bregman, & C. Gregory Seab.* 329, 66, 75-F4 (1988)
A New Search for Interstellar C_3. *Theodore P. Snow, C. Gregory Seab, & Charles L. Joseph.* 335, 185, 172-E1 (1988)
Predicting Peculiar Interstellar Extinction from Gaseous Abundances. *Charles L. Joseph, Theodore P. Snow, Jr., & C. Gregory Seab.* 340, 314, 71-A1 (1989)
On the Size Distribution of Newly Formed Grains in Red Supergiant Atmospheres. *C. Gregory Seab & Theodore P. Snow.* 347, 479, 188-A3 (1989)
Predicting Peculiar Interstellar Extinction from Gaseous Abundances: Erratum. *Charles L. Joseph, Theodore P. Snow, Jr., & C. Gregory Seab.* 347, 561, 188-G12 (1989) (Orig. paper in 340, 314, 71-A1 (1989))
SEAL, JAMES. Impulsiveness and Energetics in Solar Flares with and without Type II Radio Bursts: A Comparison of Hard X-Ray Characteristics for Over 2500 Solar Flares. *Douglas H. Pearson, Robert Nelson, Gabriel Kojoian, & James Seal.* 336, 1050, 15-E1 (1989)
SEAMAN, ROBERT L. A Study of the Stellar Population in the Lynds 1641 Dark Cloud. I. The *IRAS* Catalog Sources. *Karen M. Strom, Goeffrey Newton, Stephen E. Strom, Robert L. Seaman, Luis Carrasco, Irene Cruz-Gonzalez, Alfonso Serrano, & Gary L. Grasdalen.* 71, 183, 37-C2 (1989)
A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas,*

Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile. 362, 168, 171-B11 (1990)

SEAQUIST, E. R. A Theoretical Interpretation of the Σ–*D* Relation for Supernova Remnants. *Nebojsa Duric & E. R. Seaquist.* 301, 308, 17-C4 (1986)

Detection of the Hydrocarbon Ring Molecule C_3H_2 in the Radio Galaxy Centaurus A (= NGC 5128). *E. R. Seaquist & M. B. Bell.* 303, L67, 53-E2 (1986)

The Origin of Cosmic Rays. I. Observations of the Spiral Galaxy NGC 3310. *Nebojsa Duric, E. R. Seaquist, Patrick C. Crane, & L. E. Davis.* 304, 82, 54-G3 (1986)

Radio Observations of the 1985 Outburst of RS Ophiuchi. *R. M. Hjellming, J. H. van Gorkom, E. R. Seaquist, A. R. Taylor, S. Padin, R. J. Davis, & M. F. Bode.* 305, L71, 80-D9 (1986)

A Detailed Analysis of the Radio Emission from the Symbiotic Star RX Puppis. *E. R. Seaquist & A. R. Taylor.* 312, 813, 11-G1 (1987)

Evidence for Ram Pressure Stripping of NGC 3073 by Outflowing Gas from NGC 3079. *Judith A. Irwin, E. R. Seaquist, A. R. Taylor, & N. Duric.* 313, L91, 27-E3 (1987)

A Radio Survey of Symbiotic Stars: Erratum. *E. R. Seaquist, A. R. Taylor, & S. Sutton.* 317, 555, 70-A5 (1987) (Orig. paper in 284, 202, 100-C7 (1984))

A Nuclear, Disk-focused Wind and the Bipolar Structure of the Spiral Galaxy NGC 3079. *Nebojsa Duric & E. R. Seaquist.* 326, 574, 39-G2 (1988)

Simultaneous X-Ray and Radio Observations of GX 13+1. *M. R. Garcia, J. E. Grindlay, L. A. Molnar, L. Stella, N. E. White, & E. R. Seaquist.* 328, 552, 69-B12 (1988)

Detection of C_3H_2 Emission in the Radio Galaxy Centaurus A (=NGC 5128). *M. B. Bell & E. R. Seaquist.* 329, L17, 81-B7 (1988)

Nuclear Jets in the Radio Lobe Spiral Galaxy NGC 3079. *Judith A. Irwin & E. R. Seaquist.* 335, 658, 179-F8 (1988)

A Detailed Study of the Remnant of Nova GK Persei and Its Environs. *E. R. Seaquist, M. F. Bode, D. A. Frail, J. A. Roberts, A. Evans, & J. S. Albinson.* 344, 805, 144-C1 (1989)

The Collective Radio Properties of Symbiotic Stars. *E. R. Seaquist & A. R. Taylor.* 349, 313, 17-F9 (1990)

Heiles Shells in NGC 3079. *Judith A. Irwin & E. R. Seaquist.* 353, 469, 69-G4 (1990)

Molecular Absorption by the Dust Lane and Nuclear Region of Centaurus A. *E. R. Seaquist & M. B. Bell.* 364, 94, 195-B8 (1990)

SEAQUIST, ERNEST R. Radio Observations of Galactic Bulge and Globular Cluster X-Ray Sources. *Jonathan E. Grindlay & Ernest R. Seaquist.* 310, 172, 133-G13 (1986)

SEARLE, LEONARD. Faint Star Counts in NGC 6397. *Gregory G. Fahlman, Harvey B. Richer, Leonard Searle, & Ian B. Thompson.* 343, L49, 132-C1 (1989)

SEARS, TREVOR J. Interstellar Molecular Line Searches at 1.5 Centimeters. *Henry E. Matthews & Trevor J. Sears.* 300, 766, 11-E9 (1986)

The Absence of Interstellar HCCO and the Bates Dissociative Recombination Theory. *B. E. Turner & Trevor J. Sears.* 340, 900, 79-E7 (1989)

SEBOK, WILLIAM L. The Angular Correlation Function of Galaxies as a Function of Magnitude. *William L. Sebok.* 62, 301, 35-E5 (1986)

SEELY, J. F. Measurement of Wavelengths and Lamb Shifts for Inner-Shell Transitions in Fe XVIII–XXIV. *J. F. Seely, U. Feldman, & U. I. Safronova.* 304, 838, 65-C12 (1986)

High-Resolution X-Ray Spectra of Solar Flares. VIII. Mass Upflow in the Large Flare of 1980 November 7. *J. T. Karpen, G. A. Doschek, & J. F. Seely.* 306, 327, 85-A1 (1986)

Observations of Nonthermal Energy Distributions during the Impulsive Phase of Solar Flares. *J. F. Seely, U. Feldman, & G. A. Doschek.* 319, 541, 99-B9 (1987)

Measurement of Wavelengths for Inner-Shell Transitions in Ca XVII–XIX. *J. F. Seely & G. A. Doschek.* 338, 567, 39-G7 (1989)

High-Resolution X-Ray Spectra of Solar Flares. IX. Mass Upflow in the Long-Duration Flare of 1979 June 5. *G. A. Doschek, U. Feldman, J. F. Seely, & D. L. McKenzie.* 345, 1079, 164-A1 (1989)

The Ar/Ca Abundance Ratio in Solar Flares. *G. A. Doschek & J. F. Seely.* 348, 341, 5-C4 (1990)

SEETHA, S. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

SEGAL, I. E. Comparative Statistical Study of the Chronometric and Friedman Cosmologies Based on the Palomar Bright Quasar and Other Complete Quasar Surveys. *I. E. Segal & J. F. Nicoll.* 300, 224, 3-D11 (1986)

Resolution of the Discrepancy between the X-Ray Background Spectrum and That of Discrete Sources. *I. E. Segal.* 313, 543, 22-F7 (1987)

The Paucity of High-Redshift Quasars and Comparative Cosmology. *I. E. Segal.* 316, L5, 56-A8 (1987)

Correction of a Study of Source Counts in the Chronometric Cosmology. *I. E. Segal.* 320, 135, 109-E1 (1987)

SEGELSTEIN, D. J. Results of Two Surveys for Fast Pulsars. *G. H. Stokes, D. J. Segelstein, J. H. Taylor, & R. J. Dewey.* 311, 694, 155-D1 (1986)

SEGGEWISS, WILHELM. Wolf-Rayet Stars in the Magellanic Clouds. IV. The Extraordinarily Broad-lined, Triple System R130 in the Large Magellanic Cloud. *Anthony F. J. Moffat & Wilhelm Seggewiss.* 309, 714, 129-B2 (1986)

The Wolf-Rayet Population in 30 Doradus and Its Surroundings. *Anthony F. J. Moffat, Virpi S. Niemela, M. M. Phillips, You-Hua Chu, & Wilhelm Seggewiss.* 312, 612, 9-E7 (1987)

An Eight Year Spectroscopic Orbit for the WC7+O4 Wolf-Rayet Binary HD 193793: Toward Solving the Mystery of the Infrared Outbursts. *Anthony F. Moffat, Robert Lamontagne, Peredur M. Williams, Jiri Horn, & Wilhelm Seggewiss.* 312, 807, 11-F8 (1987)

Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)

SEGUIN, M. Spectroscopic and Polarimetric Parameters of the Runaway WN7 Binary System HD 197406: Is the Secondary an X-Ray–quiet Black Hole? *L. Drissen, R. Lamontagne, A. F. J. Moffat, P. Bastien, & M. Seguin.* 304, 188, 56-A1 (1986)

SEIDEL, E. Intermediate-Age Core Helium-burning Stars and the Distance to the Magellanic Clouds. *E. Seidel, G. S. Da Costa, & Pierre Demarque.* 313, 192, 17-B1 (1987)

The Evolution of Red Clump Stars: Theoretical Sequences. *E. Seidel, P. Demarque, & D. Weinberg.* 63, 917, 15-B13 (1987)

SEIDEL, S. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

SEIDEN, PHILIP E. Hierarchical Structure in the Distribution of Galaxies. *Lawrence S. Schulman & Philip E. Seiden.* 311, 1, 146-A7 (1986)

Spiral-Arm Amplitude Variations and Pattern Speeds in the Grand Design Galaxies M51, M81, and M100. *Bruce G. Elmegreen, Debra Meloy Elmegreen, & Philip E. Seiden.* 343, 602, 126-F1 (1989)

SEIELSTAD, G. A. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

SEIFERT, W. The Origin of the 10 Megagauss Zeeman Features in the AM Herculis System EF Eridani. *R. Östreicher, W. Seifert, G. Wunner, & H. Ruder.* 350, 324, 29-A7 (1990)

SEITZER, P. A Deep CCD Survey of 12 High-Latitude Fields. *J. A. Tyson & P. Seitzer.* 335, 552, 178-E4 (1988)

SEITZER, PATRICK. Ripples in Disk Galaxies. *François Schweizer & Patrick Seitzer.* 328, 88, 63-A1 (1988)
The Neutral Hydrogen Ring, Mass-to-Light Ratio, and Dark Halo of the Elliptical Galaxy IC 2006. *François Schweizer, Jacqueline H. van Gorkom, & Patrick Seitzer.* 338, 770, 43-D3 (1989)
The Nonthermal Stellar Dynamics of the Globular Cluster M15. *Ruth C. Peterson, Patrick Seitzer, & Kyle M. Cudworth.* 347, 251, 185-B8 (1989)
Correlations between Line Strengths and Fine Structure in Elliptical Galaxies. *François Schweizer, Patrick Seitzer, S. M. Faber, David Burstein, Cristina M. Dalle Ore, & J. Jesus Gonzalez.* 364, L33, 205-C13 (1990)
SEKANINA, Z. Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher, H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina.* 310, L61, 138-E4 (1986)
SEKI, MIDORI. Neutrino-Pair Bremsstrahlung in Dense Stars. IV. Phonon Constributions in the Crystalline Lattice Phase: Erratum. *Naoki Itoh, Yasuharu Kohyama, Noriyoshi Matsumoto, & Midori Seki.* 322, 584, 144-C9 (1987) (Orig. paper in 285, 304, 113-C2 (1984))
SEKI, MUNEZO. High-Velocity Flows in the NGC 7538 Molecular Cloud. *Osamu Kameya, Tatsuhiko I. Hasegawa, Naomi Hirano, Keiya Takakubo, & Munezo Seki.* 339, 222, 52-F5 (1989)
SEKIGUCHI, KAZUHIRO. An Internal Motion Analysis of the Open Cluster M35. *Bernard J. McNamara & Kazuhiro Sekiguchi.* 310, 613, 140-E4 (1986)
IRAS Observations of Starburst and Nonactive Spiral Galaxies. *Kazuhiro Sekiguchi.* 316, 145, 51-E6 (1987)
SELING, T. V. Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at $\gamma = 1.4$ Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)
SELIPSKY, STEPHEN B. New Models for Neutron Stars. *Safi Bahcall, Bryan W. Lynn, & Stephen B. Selipsky.* 362, 251, 172-C7 (1990)
SELLGREN, K. Ultraviolet-pumped Infrared Fluorescent Molecular Hydrogen Emission in Reflection Nebulae. *K. Sellgren.* 305, 399, 71-E4 (1986)
3 Micron Spectroscopy of Comet Halley (1982i). *A. T. Tokunaga, R. G. Smith, T. Nagata, D. L. DePoy, & K. Sellgren.* 310, L45, 138-D3 (1986)
IRAS Surface Brightness Maps of Reflection Nebulae in the Pleiades. *Michael W. Castelaz, K. Sellgren, & M. W. Werner.* 313, 853, 26-B1 (1987)
Radial Velocities of Late-Type Stars in the Galactic Center. *K. Sellgren, D. N. B. Hall, S. G. Kleinmann, & N. Z. Scoville.* 317, 881, 75-F5 (1987)
High-Resolution Spectroscopy of the 3 Micron Emission Features in NGC 7027 and IRAS 21282+5050. *Tetsuya Nagata, Alan T. Tokunaga, K. Sellgren, Robert G. Smith, Takashi Onaka, Yoshikazu Nakada, & Akira Sakata.* 326, 157, 33-G5 (1988)
Infrared Images and Spectroscopy of the Bipolar Source IRAS 09371+1212. *Klaus-Werner Hodapp, K. Sellgren, & Tetsuya Nagata.* 326, L61, 46-C1 (1988)
High Spectral Resolution Observations of HD 44179 at 3.2–3.7 Microns. *A. T. Tokunaga, T. Nagata, K. Sellgren, R. G. Smith, T. Onaka, Y. Nakada, A. Sakata, & S. Wada.* 328, 709, 70-G6 (1988)
A Study of H_2O Ice in the 3 Micron Spectrum of OH 231.8+4.2 (OH 0739−14). *Robert G. Smith, K. Sellgren, & Alan T. Tokunaga.* 334, 209, 156-E10 (1988)
Stellar Kinematics in the Galactic Center. *M. T. McGinn, K. Sellgren, E. E. Becklin, & D. N. B. Hall.* 338, 824, 44-B7 (1989)
Spectroscopic Images of NGC 7027 in the Near-Infrared Dust Emission Features. *C. E. Woodward, Judith L. Pipher, Mark Shure, W. J. Forrest, & K. Sellgren.* 342, 860, 113-A7 (1989)
Absorption Features in the 3 Micron Spectra of Protostars. *Robert G. Smith, K. Sellgren, & Alan T. Tokunaga.* 344, 413, 138-B2 (1989)
The 3.3 Micron Feature, H_2, and Ionized Gas in the Orion Bar. *K. Sellgren, A. T. Tokunaga, & Y. Nakada.* 349, 120, 15-D8 (1990)
Velocity Dispersion and the Stellar Population in the Central 1.2 Parsecs of the Galaxy. *K. Sellgren, M. T. McGinn, E. E. Becklin, & D. N. B. Hall.* 359, 112, 135-D9 (1990)
The Excitation of 12 Micron Emission from Very Small Particles. *K. Sellgren, L. Luan, & M. W. Werner.* 359, 384, 140-G1 (1990)
SEMBACH, K. Studies of the Local Interstellar Medium. VIII. Morphology and Kinematics of the Diffuse Interstellar Clouds toward Orion. *P. C. Frisch, K. Sembach, & D. G. York.* 364, 540, 202-G4 (1990)
SEMBACH, KENNETH. Ultraviolet Interstellar Absorption toward HD 163522, a Halo Star at 9 Kiloparsecs in the Direction $l = 350°$ and $b = -9°$. *Blair D. Savage, Derck Massa, & Kenneth Sembach.* 355, 114, 88-D5 (1990)
SEMBAY, S. Observations of A0535+26 with the *SMM* Satellite. *S. Sembay, R. A. Schwartz, S. R. Davies, L. E. Orwig, & B. R. Dennis.* 351, 675, 48-E1 (1990)
Detection of a Weak Gamma-Ray Burst from the Direction of Ursa Major. *Alan Owens, Dipen Bhattacharya, & S. Sembay.* 352, 741, 60-B9 (1990)
SEMBROSKI, G. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)
SERABYN, E. High-Resolution [Ne II] Observations of the Ionized Filaments in the Galactic Center. *E. Serabyn, J. H. Lacy, C. H. Townes, & R. Bharat.* 326, 171, 34-A5 (1988)
A Study of AFGL 5376: An Unusual Extended Infrared Source near the Galactic Center. *Keven Uchida, Mark Morris, & E. Serabyn.* 351, 443, 45-E9 (1990)
SERIO, S. Multiband Far-Infrared Observations of the NGC 6334 Complex. *L. Loughran, B. McBreen, G. G. Fazio, T. N. Rengarajan, C. W. Maxson, S. Serio, S. Sciortino, & T. P. Ray.* 303, 629, 49-D3 (1986)
Hydrodynamic Flare Modeling: Comparison of Numerical Calculations with *SMM* Observations of the 1980 November 12 17:00 UT Flare. *G. Peres, F. Reale, S. Serio, & R. Pallavicini.* 312, 895, 12-F5 (1987)
Variability Analysis in Low Count Rate Sources. *A. Collura, A. Maggio, S. Sciortino, S. Serio, G. S. Vaiana, & R. Rosner.* 315, 340, 43-E11 (1987)
Simulations of the Ca XIX Spectral Emission from a Flaring Solar Cromal Loop. I. Thermal Case. *E. Antonucci, M. A. Dodero, G. Peres, S. Serio, & R. Rosner.* 322, 522, 143-F1 (1987)
Hydrodynamic Modeling of an X-Ray Flare on Proxima Centauri Observed by the *Einstein* Telescope. *F. Reale, G. Peres, S. Serio, R. Rosner, & J. H. M. M. Schmitt.* 328, 256, 64-G1 (1988)
Variability of X-Ray Emission from OB Stars. *A. Collura, S. Sciortino, S. Serio, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 338, 296, 36-E7 (1989)
SERLEMITSOS, P. J. Fast Transients: A Search in X-Rays for Short Flares, Bursts, and Related Phenomena. *A. Connors, P. J. Serlemitsos, & J. H. Swank.* 303, 769, 51-A4 (1986)
SERRANO, ALFONSO. A Study of the Stellar Population in the Lynds 1641 Dark Cloud. I. The *IRAS* Catalog Sources. *Karen M. Strom, Goeffrey Newton, Stephen E. Strom, Robert L. Seaman, Luis Carrasco, Irene Cruz-Gonzalez, Alfonso Serrano, & Gary L. Grasdalen.* 71, 183, 37-C2 (1989)
A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)
SERVICE, A. T. Fitting Formulae for the Equation of State of a Perfect, Semirelativistic Boltzmann Gas. *A. T. Service.* 307, 60, 95-E10 (1986)
SEWARD, F. D. A 6 Second Periodic X-Ray Source in Carina. *F. D. Seward, P. A. Charles, & A. P. Smale.* 305, 814, 77-G2 (1986)
Spectral Variability of Cygnus X-2: Structure in the Circumsource Material. *S. D. Vrtilek, S. M. Kahn, J. E. Grindlay, D. J. Helfand, & F. D. Seward.* 307, 698, 104-E9 (1986)
X-Ray Emission Lines from Three Galactic Bulge Sources. *S. D. Vrtilek, D. J. Helfand, J. P. Halpern, S. M. Kahn, & F. D. Seward.* 308, 644, 116-A10 (1986)

A Comprehensive Study of the X-Ray Structure and Spectrum of IC 443. *R. Petre, A. E. Szymkowiak, F. D. Seward, & R. Willingale.* 335, 215, 172-G8 (1988)

SEWARD, FREDERICK D. An Upper Limit to X-Ray Emission from Saturn. *David A. Gilman, Kevin C. Hurley, Frederick D. Seward, Herbert W. Schnopper, James D. Sullivan, & Albert E. Metzger.* 300, 453, 6-A9 (1986)

Pulsars, X-Ray Synchrotron Nebulae, and Guest Stars. *Frederick D. Seward & Zhen-Ru Wang.* 332, 199, 125-C7 (1988)

A Further Study of the Molecular Cloud Associated with the Supernova Remnant G109.1−1.0. *Ken'ichi Tatematsu, Yasuo Fukui, Takahiro Iwata, Frederick D. Seward, & Makoto Nakano.* 351, 157, 40-A4 (1990)

Einstein Observations of Galactic Supernova Remnants. *Frederick D. Seward.* 73, 781, 28-G9 (1990)

SHAFER, R. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

SHAFER, R. A. X-Ray Observations of *IRAS* Selected Seyfert Galaxies and Obscuration of the Broad-Line Region. *M. J. Ward, C. Done, A. C. Fabian, A. F. Tennant, & R. A. Shafer.* 324, 767, 11-F12 (1988)

X-Ray Eclipse Mapping of AR Lacertae. *N. E. White, R. A. Shafer, K. Horne, A. N. Parmar, & J. L. Culhane.* 350, 776, 35-F1 (1990)

A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

SHAFFER, DAVID B. Multiepoch VLBI Observations of 4C 39.25: Superluminal Motion and Stationary Structure. *David B. Shaffer, Alan P. Marscher, Jon Marcaide, & Jonathan D. Romney.* 314, L1, 33-B4 (1987)

Multifrequency VLBI Observations of 4C 39.25: A Superluminal Source without a Well-defined Core. *Alan P. Marscher, David B. Shaffer, Roy S. Booth, & Barry J. Geldzahler.* 319, L69, 107-D7 (1987)

SHAFI, QUAISAR. Large-scale Structure Formation and Cosmic Microwave Anisotropy in a Cold plus Hot Dark Matter Universe. *Robert K. Schaefer, Quaisar Shafi, & Floyd W. Stecker.* 347, 575, 190-D1 (1989)

SHAFTER, A. W. Mass Transfer in Cataclysmic Variables: Clues from the Dwarf Nova Period Distribution. *A. W. Shafter, J. C. Wheeler, & J. K. Cannizzo.* 305, 261, 69-G5 (1986)

X-Ray and Optical Observations of the Ultrashort Period Dwarf Nova SW Ursae Majoris: A Likely New DQ Herculis Star. *A. W. Shafter, P. Szkody, & J. R. Thorstensen.* 308, 765, 117-C11 (1986)

Photometric and Spectroscopic Observations of the Eclipsing Nova-like Variable PG 1030+590 (DW Ursae Majoris). *A. W. Shafter, F. V. Hessman, & E.-H. Zhang.* 327, 248, 49-F10 (1988)

SHAFTER, ALLEN W. Detection of Superhumps and Quasi-periodic Oscillations in the Light Curve of the Dwarf Nova SW Ursae Majoris. *Edward L. Robinson, Allen W. Shafter, J. Allen Hill, Matt A. Wood, & Janet A. Mattei.* 313, 772, 25-C2 (1987)

The Spatial Distribution and Population of Novae in M31. *Robin Ciardullo, Holland C. Ford, James D. Neill, George H. Jacoby, & Allen W. Shafter.* 318, 520, 86-E6 (1987)

An Upper Limit to the Space Density of Short-period Noninteracting Binary White Dwarfs. *Edward L. Robinson & Allen W. Shafter.* 322, 296, 141-B1 (1987)

On the Outburst Recurrence Time for the Accretion Disk Limit Cycle Mechanism in Dwarf Novae. *John K. Cannizzo, Allen W. Shafter, & J. Craig Wheeler.* 333, 227, 140-E9 (1988)

V Persei: Bridging the Period Gap. *Allen W. Shafter & Timothy M. C. Abbott.* 339, L75, 66-D6 (1989)

V795 Herculis (PG 1711+336): A New Intermediate Polar in the Period Gap. *Allen W. Shafter, Edward L. Robinson, David Crampton, Brian Warner, & Richard M. Prestage.* 354, 708, 85-B1 (1990)

The Hα Light Curves of Novae in M31. *Robin Ciardullo, Allen W. Shafter, Holland C. Ford, James D. Neill, Michael M. Shara, & A. B. Tomaney.* 356, 472, 106-B10 (1990)

A Detection of Orbital Radial Velocity Variations of the Primary Component in the Black Hole Binary A0620−00 (= V616 Monocerotis). *Carole A. Haswell & Allen W. Shafter.* 359, L47, 144-B10 (1990)

SHAHAM, J. Spontaneous Superfluid Unpinning and the Inhomogeneous Distribution of Vortex Lines in Neutron Stars. *K. S. Cheng, M. A. Alpar, D. Pines, & J. Shaham.* 330, 835, 101-F8 (1988)

Accretion Turnoff and Rapid Evaporation of Very Light Secondaries in Low-Mass X-Ray Binaries. *M. Ruderman, J. Shaham, & M. Tavani.* 336, 507, 7-E1 (1989)

Late Evolution of Very Low Mass X-Ray Binaries Sustained by Radiation from Their Primaries. *M. Ruderman, J. Shaham, M. Tavani, & D. Eichler.* 343, 292, 121-G1 (1989)

On the Origin of Pulsed Emission from the Young Supernova Remnant SN 1987A. *M. Ruderman, W. Kluźniak, & J. Shaham.* 346, L77, 181-D1 (1989)

SHAHAM, JACOB. Free Precession in Quasi-periodic Oscillators. *Jacob Shaham.* 310, 780, 142-D10 (1986)

Pulse Sharpness and Asymmetry in Millisecond Pulsars. *Kaiyou Chen & Jacob Shaham.* 339, 279, 53-D9 (1989)

Self-sustained Strong Mass Transfer without Roche Lobe Overflow: Cygnus X-3. *Marco Tavani, Malvin Ruderman, & Jacob Shaham.* 342, L31, 109-C8 (1989)

SHAKLAN, STUART B. Detection of the Lensing Galaxy in PG 1115+08. *Stuart B. Shaklan & E. K. Hege.* 303, 605, 49-B5 (1986)

SHAKOVSKAYA, N. I. Further Evidence for Rotational Modulation of the Light from T Tauri Stars. *F. J. Vrba, A. E. Rydgren, P. F. Chugainov, N. I. Shakovskaya, & D. S. Zak.* 306, 199, 83-D10 (1986)

X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, N. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

SHAMPINE, L. R. The Quasi-rigid Rotation of Coronal Magnetic Fields. *Y.-M. Wang, N. R. Sheeley, Jr., A. G. Nash, & L. R. Shampine.* 327, 427, 51-F1 (1988)

SHANBHAG, SMITA. QSO Activity and Host Galaxy Evolution. *Smita Shanbhag & Ajit Kembhavi.* 334, 34, 154-D7 (1988)

SHANDARIN, SERGEI F. Gravitational Instability with High Resolution. *Adrian L. Melott & Sergei F. Shandarin.* 343, 26, 118-C11 (1989)

Gravitational Instability with High Resolution: Erratum. *Adrian L. Melott & Sergei F. Shandarin.* 348, 370, 5-E10 (1990) (Orig. paper in 343, 26, 118-C11 (1989))

Minimal Spectrum of Long-Wave Perturbations: Is Linear Growth Correct Only in the Nonlinear Regime? *Sergei F. Shandarin & Adrian L. Melott.* 364, 396, 200-G9 (1990)

SHANKAR, ANURAG. Nova Outbursts in the Case of "Mild Hibernation." *Mario Livio, Anurag Shankar, & James W. Truran.* 325, 282, 22-C1 (1988)

Nova Outbursts on Magnetic White Dwarfs. *Mario Livio, Anurag Shankar, & James W. Truran.* 330, 264, 93-A10 (1988)

The Common Envelope Phase in the Outbursts of Classical Novae. *Mario Livio, Anurag Shankar, Andreas Burkert, & James W. Truran.* 356, 250, 102-B11 (1990)

SHAO, M. Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)

Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

Apparent Orbit of the Spectroscopic Binary β Arietis with the Mark III Stellar Interferometer. *X. P. Pan, M. Shao, M. M. Colavita, D. Mozurkewich, R. S. Simon, & K. J. Johnston.* 356, 641, 108-B11 (1990)

SHAPIRO, I. I. VLBI Observations of 23 Hot Spots in the Starburst Galaxy M82. *N. Bartel, M. I. Ratner, A. E. E. Rogers, I. I. Shapiro, R. J. Bonometti, N. L. Cohen, M. V. Gorenstein, J. M. Marcaide, & R. A. Preston.* 323, 505, 160-B3 (1987)

Degeneracies in Parameter Estimates for Models of Gravitational Lens Systems. *M. V. Gorenstein, E. E. Falco, & I. I. Shapiro.* 327, 693, 56-C3 (1988)

VLBI Observations of the Gravitational Lens System 0957+561: Structure and Relative Magnification of the A and B Images. *M. V. Gorenstein, N. L. Cohen, I. I. Shapiro, A. E. E. Rogers, R. J. Bonometti, E. E. Falco, N. Bartel, & J. M. Marcaide.* 334, 42, 154-E1 (1988)

Radar Observations of Comet IRAS-Araki-Alcock 1983d. *J. K. Harmon, D. B. Campbell, A. A. Hine, I. I. Shapiro, & B. G. Marsden.* 338, 1071, 47-A6 (1989)

Radar Observations of Comet Halley. *D. B. Campbell, J. K. Harmon, & I. I. Shapiro.* 338, 1094, 47-C1 (1989)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

SHAPIRO, IRWIN I. VLBI Observations of SN 1986J: Deviations from Spherical Symmetry in Its Radio Brightness Distribution. *Norbert Bartel, Michael R. Rupen, & Irwin I. Shapiro.* 337, L85, 32-C7 (1989)

SHAPIRO, M. M. Source Composition of Cosmic Rays at Energies 1–1000 TeV per Nucleon. *R. Silberberg, C. H. Tsao, M. M. Shapiro, & P. L. Biermann.* 363, 265, 185-D3 (1990)

SHAPIRO, PAUL R. The Radiative Acceleration of Astrophysical Jets: Line Locking in SS 433. *Paul R. Shapiro, Mordehai Milgrom, & Martin J. Rees.* 60, 393, 6-A5 (1986)

New Results in the Optics of Grains with Resonant Impurities. *Paul R. Shapiro & Katherine A. Holcomb.* 305, 433, 71-G11 (1986)

On the Dust Grain Hypothesis for the Diffuse Interstellar Bands. *Paul R. Shapiro & Katherine A. Holcomb.* 310, 872, 143-D9 (1986)

Hydrogen Molecules and the Radiative Cooling of Pregalactic Shocks. *Paul R. Shapiro & Hyesung Kang.* 318, 32, 79-C8 (1987)

Cosmological H II Regions and the Photoionization of the Intergalactic Medium. *Paul R. Shapiro & Mark L. Giroux.* 321, L107, 137-A13 (1987)

Biased Galaxy Formation in the Neutrino Scenario. *Erez Braun, Avishai Dekel, & Paul R. Shapiro.* 328, 34, 62-D1 (1988)

On the Dust Grain Origin of the Cosmic Submillimeter Background. *B. T. Draine & Paul R. Shapiro.* 344, L45, 148-A10 (1989)

The Gravitational Instability of Collisionless Particles in a Cosmological Self-similar Shell. *Jai-chan Hwang, Ethan T. Vishniac, & Paul R. Shapiro.* 346, 12, 166-C1 (1989)

Radiative Shocks inside Protogalaxies and the Origin of Globular Clusters. *Hyesung Kang, Paul R. Shapiro, S. Michael Fall, & Martin J. Rees.* 363, 488, 190-C1 (1990)

SHAPIRO, STUART L. On the Stability of the Galactic Magnetic Field in the Presence of a Magnetic Monopole Halo. *David F. Chernoff, Stuart L. Shapiro, & Ira Wasserman.* 304, 799, 65-A1 (1986)

Relativistic Stellar Dynamics on the Computer. IV. Collapse of a Star Cluster to a Black Hole. *Stuart L. Shapiro & Saul A. Teukolsky.* 307, 575, 103-C3 (1986)

Neutrino-driven Winds from Young, Hot Neutron Stars. *Robert C. Duncan, Stuart L. Shapiro, & Ira Wasserman.* 309, 141, 121-E4 (1986)

Tidal Heating of Globular Clusters. *David F. Chernoff, Christopher S. Kochanek, & Stuart L. Shapiro.* 309, 183, 122-A4 (1986)

The Dynamical Fate of Wide Binaries in the Solar Neighborhood. *Martin D. Weinberg, Stuart L. Shapiro, & Ira Wasserman.* 312, 367, 4-G9 (1987)

Simulations of Axisymmetric, Newtonian Star Clusters: Prelude to 2+1 General Relativistic Computations. *Stuart L. Shapiro & Saul A. Teukolsky.* 318, 542, 86-G1 (1987)

How Big Are Supermassive Black Holes Formed from the Collapse of Dense Star Clusters? *Christopher S. Kochanek, Stuart L. Shapiro, & Saul A. Teukolsky.* 320, 73, 108-G8 (1987)

The Collapse of Dense Star Clusters to Supermassive Black Holes: Binaries and Gravitational Radiation. *Gerald D. Quinlan & Stuart L. Shapiro.* 321, 199, 124-D2 (1987)

Globular Cluster Evolution in the Galaxy: A Global View. *David F. Chernoff & Stuart L. Shapiro.* 322, 113, 139-B9 (1987)

Simulations of Axisymmetic, Newtonian Star Clusters: Prelude to 2 + 1 General Relativistic Computations: Erratum. *Stuart L. Shapiro & Saul A. Teukolsky.* 324, 1221, 17-A12 (1988) (Orig. paper in 318, 542, 86-G1 (1987))

Accretion onto a Moving Black Hole: A Fully Relativistic Treatment. *Loren I. Petrich, Stuart L. Shapiro, Richard F. Stark, & Saul A. Teukolsky.* 336, 313, 5-A1 (1989)

On the Existence of Stable Relativistic Star Clusters with Arbitrarily Large Central Redshifts. *Frederic A. Rasio, Stuart L. Shapiro, & Saul A. Teukolsky.* 336, L63, 16-F5 (1989)

Supernova 1987A and the Emergence of the Hot Neutron Star: A Semianalytic Approach. *David F. Chernoff, Stuart L. Shapiro, & Ira Wasserman.* 337, 814, 29-B1 (1989)

Exploding Neutron Stars near the Minimum Mass. *Monica Colpi, Stuart L. Shapiro, & Saul A. Teukolsky.* 339, 318, 54-A9 (1989)

What Is Causing the Eclipse in the Millisecond Binary Pulsar? *Frederic A. Rasio, Stuart L. Shapiro, & Saul A. Teukolsky.* 342, 934, 113-G7 (1989)

Dynamical Evolution of Dense Clusters of Compact Stars. *Gerald D. Quinlan & Stuart L. Shapiro.* 343, 725, 128-C3 (1989)

Solving the Vlasov Equation in General Relativity. *Frederic A. Rasio, Stuart L. Shapiro, & Saul A. Teukolsky.* 344, 146, 134-G7 (1989)

Encounters between Compact Stars and Red Giants in Dense Stellar Systems. *Frederic A. Rasio & Stuart L. Shapiro.* 354, 201, 76-D7 (1990)

The Dynamical Evolution of Dense Star Clusters in Galactic Nuclei. *Gerald D. Quinlan & Stuart L. Shapiro.* 356, 483, 106-C9 (1990)

Spin-up of a Rapidly Rotating Star by Angular Momentum Loss. *Stuart L. Shapiro, Saul A. Teukolsky, & Takashi Nakamura.* 357, L17, 115-C11 (1990)

Gravitational Radiation from Colliding Clusters: Newtonian Simulations in Three Dimensions. *Christopher S. Kochanek, Stuart L. Shapiro, Saul A. Teukolsky, & David F. Chernoff.* 358, 81, 123-A10 (1990)

Spin-down of Rapidly Rotating Neutron Stars. *Lee Samuel Finn & Stuart L. Shapiro.* 359, 444, 141-E6 (1990)

SHARA, M. M. Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)

The Wolf-Rayet Star Population in the Most Massive Giant H II Regions of M33. *L. Drissen, A. F. J. Moffat, & M. M. Shara.* 364, 496, 202-C10 (1990)

SHARA, MICHAEL M. Hydrodynamic Simulation of a White Dwarf–Main-Sequence Star Collision in a Globular Cluster Core. *Michael M. Shara & Oded Regev.* 306, 543, 90-D12 (1986)

Do Novae Hibernate during Most of the Millennia between Eruptions? Links between Dwarf and Classical Novae, and Implications for the Space Densities and Evolution of Cataclysmic Binaries. *Michael M. Shara, Mario Livio, Anthony F. J. Moffat, & Marina Orio.* 311, 163, 147-G3 (1986)

Rapid Accretion and Hibernation in the Preoutburst History of Classical Novae. *Dina Prialnik & Michael M. Shara.* 311, 172, 147-G12 (1986)

First Optical Candidate for a Recovered Classical Nova in a Globular Cluster: Nova 1938 in M14. *Michael M. Shara, Anthony F. J. Moffat, Michael Potter, Helen S. Hogg, & Amelia Wehlau.* 311, 796, 156-D9 (1986)

The Discovery of Six New Short-Period Variables in the Old Open Cluster NGC 188. *Janusz Kaluzny & Michael M. Shara.* 314, 585, 36-A2 (1987)

Massive Disk Formation from the Collision of a Main-Sequence Star with a White Dwarf in a Globular Cluster Core. *Noam Soker, Oded Regev, Mario Livio, & Michael M. Shara.* 318, 760, 89-C4 (1987)

Binary System Parameters and the Hibernation Models of Cataclysmic Variables. *Mario Livio & Michael M. Shara.* 319, 819, 104-A4 (1987)

Wolf-Rayet Stars in the Andromeda Galaxy. *Anthony F. J. Moffat & Michael M. Shara.* 320, 266, 111-A9 (1987)

What Does an Erupting Nova Do to Its Red Dwarf Companion? *Attay Kovetz, Dina Prialnik, & Michael M. Shara.* 325, 828, 29-E10 (1988)

A CCD Search for Faint Variables in the Field of an ω Centauri Low-Luminosity X-Ray Source, and in 47 Tucanae. *Michael M. Shara, Janusz Kaluzny, Michael Potter, & Anthony F. J. Moffat.* 328, 594, 69-E12 (1988)

Slow Expansion of the Shell of the Recurrent Nova T Pyxidis and Detection of a Faint Extended Envelope. *Michael M. Shara, Anthony F. J. Moffat, Robert E. Williams, & Judith G. Cohen.* 337, 720, 28-A1 (1989)

Accretion Heating and Thermonuclear Runaways on the Surfaces of Iron White Dwarfs. *Dina Prialnik, Attay Kovetz, & Michael M. Shara.* 339, 1013, 64-C1 (1989)

How Much Boundary Layer Heating Occurs in an Accreting Prenova White Dwarf? *Oded Regev & Michael M. Shara.* 340, 1006, 80-G1 (1989)

Uniformity of the WC Stars in the Large Magellanic Cloud. *Lindsey F. Smith, Michael M. Shara, & Anthony F. J. Moffat.* 348, 471, 8-D8 (1990)

The Hα Light Curves of Novae in M31. *Robin Ciardullo, Allen W. Shafter, Holland C. Ford, James D. Neill, Michael M. Shara, & A. B. Tomaney.* 356, 472, 106-B10 (1990)

Distances of Galactic WC Stars from Emission-Line Fluxes and a Quantification of the WC Classification. *Lindsey F. Smith, Michael M. Shara, & Anthony F. J. Moffat.* 358, 229, 124-G12 (1990)

SHARE, G. Solar Neutron Emissivity during the Large Flare on 1982 June 3. *E. L. Chupp, H. Debrunner, E. Flückiger, D. J. Forrest, F. Golliez, G. Kanbach, W. T. Vestrand, J. Cooper, & G. Share.* 318, 913, 91-A1 (1987)

SHARE, G. H. Rapid Acceleration of Energetic Particles in the 1982 February 8 Solar Flare. *S. R. Kane, E. L. Chupp, D. J. Forrest, G. H. Share, & E. Rieger.* 300, L95, 13-G2 (1986)

Spectral Evolution of Pulse Structures in Gamma-Ray Bursts. *J. P. Norris, G. H. Share, D. C. Messina, B. R. Dennis, U. D. Desai, T. L. Cline, S. M. Matz, & E. L. Chupp.* 301, 213, 16-C7 (1986)

The Directivity of High-Energy Emission from Solar Flares. II. *Solar Maximum Mission* Observations. *W. Thomas Vestrand, D. J. Forrest, E. L. Chupp, E. Rieger, & G. H. Share.* 322, 1010, 151-A7 (1987)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Messina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 326, 717, 41-E1 (1988)

SMM Detection of Diffuse Galactic 511 keV Annihilation Radiation: Erratum. *G. H. Share, R. L. Kinzer, J. D. Kurfess, D. C. Massina, W. R. Purcell, E. L. Chupp, D. J. Forrest, & C. Reppin.* 331, 1078, 120-G4 (1988) (Orig. paper in 326, 717, 41-E1 (1988))

Search for Doppler-shifted Gamma-Ray Emission from SS 433 Using the *SMM* Spectrometer. *B. J. Geldzahler, G. H. Share, R. L. Kinzer, J. Magura, E. L. Chupp, & E. Rieger.* 342, 1123, 116-A5 (1989)

Nuclear Line Spectroscopy of the 1981 April 27 Solar Flare. *R. J. Murphy, G. H. Share, J. R. Letaw, & D. J. Forrest.* 358, 298, 125-G1 (1990)

Measurement of the 0.3–8.5 MeV Galactic Gamma-Ray Spectrum from the Galactic Center Direction. *M. J. Harris, G. H. Share, M. D. Leising, R. L. Kinzer, & D. C. Messina.* 362, 135, 170-G1 (1990)

SHARE, GERALD H. Gamma-Ray Limits on ^{22}Na Production in Novae. *Mark D. Leising, Gerald H. Share, Edward L. Chupp, & Gottfried Kanbach.* 328, 755, 71-C13 (1988)

The Gamma-Ray Light Curves of SN 1987A. *Mark D. Leising & Gerald H. Share.* 357, 638, 120-E1 (1990)

Limits on a Variable Source of 511 keV Annihilation Radiation near the Galactic Center. *Gerald H. Share, Mark D. Leising, Daniel C. Messina, & William R. Purcell.* 358, LA5, 133-C3 (1990)

A Limit on the Production of ^{56}Ni in a Type I Supernova. *Steven M. Matz & Gerald H. Share.* 362, 235, 172-B1 (1990)

SHARMA, J. P. Some Relativistic Features of Stellar Structures. *J. P. Sharma.* 329, 232, 77-E11 (1988)

SHARP, C. M. Polyoxymethylene in Comet Halley. *W. F. Huebner, D. C. Boice, & C. M. Sharp.* 320, L149, 121-F7 (1987)

Molecular Equilibrium with Condensation. *C. M. Sharp & W. F. Huebner.* 72, 417, 7-F5 (1990)

SHARP, CHRISTOPHER M. Model Atmospheres for K and M Giants. *Jeffery A. Brown, Hollis R. Johnson, David R. Alexander, Lori C. Cutright, & Christopher M. Sharp.* 71, 623, 44-E5 (1989)

SHARP, N. A. Anomalous Redshift Companion Galaxies: NGC 7603. *N. A. Sharp.* 302, 245, 30-E12 (1986)

Image Enhancement in Optical Astronomy. *N. A. Sharp.* 345, L37, 157-D2 (1989)

Double Galaxy Redshifts and Dynamical Analyses. II. Sample Comparisons. *N. A. Sharp.* 354, 418, 81-E9 (1990)

SHARPLES, R. M. Michigan 160: Internal Kinematics and the Cosmic Distance Scale. *L. Staveley-Smith, J. Bland, D. J. Axon, R. D. Davies, & R. M. Sharples.* 364, 23, 194-C11 (1990)

SHAVER, P. A. The Clustering of Quasars. *A. Iovino & P. A. Shaver.* 330, L13, 96-D6 (1988)

SHAVER, PETER. The Clustering of H II Galaxies. *Angela Iovino, Jorge Melnick, & Peter Shaver.* 330, L17, 96-D10 (1988)

SHAVIV, G. Gasdynamical Stripping of Elliptical Galaxies. *T. J. Gaetz, E. E. Salpeter, & G. Shaviv.* 316, 530, 57-G3 (1987)

A Model for the 1987 Outburst of the Recurrent Nova U Scorpii. *S. Starrfield, W. M. Sparks, & G. Shaviv.* 325, L35, 31-C11 (1988)

SHAVIV, GIORA. The Effect of Heating from the Boundary Layer on Accretion Models for Novae and Other Compact Objects. *Giora Shaviv & Sumner Starrfield.* 321, L51, 129-F3 (1987)

Evolution of a 0.7 $M_\odot$ Red Giant. *Amos Harpaz, Attay Kovetz, & Giora Shaviv.* 323, 154, 154-F13 (1987)

Accretion onto Main-Sequence Stars. I. The Transient Phase. *Giora Shaviv & Sumner Starrfield.* 335, 383, 174-G5 (1988)

SHAW, RICHARD A. The Relative Number of Seyfert 2 Galaxies. I. Spectra of Emission-Line Galaxies in the Wasilewski Field. *Donald E. Osterbrock & Richard A. Shaw.* 327, 89, 48-A2 (1988)

Long-Slit Spectroscopy of Starburst Galaxies. *M. M. De Robertis & Richard A. Shaw.* 329, 629, 83-E4 (1988)

Apparent Magnitudes of Luminous Planetary Nebula Nuclei. II. A Survey of Southern-Hemisphere Planetary Nebulae. *Richard A. Shaw & James B. Kaler.* 69, 495, 8-G1 (1989)

A Case Study of a WC Planetary Nebula Nucleus: Henize 2-99. *James B. Kaler, Richard A. Shaw, Walter A. Feibelman, & Julie H. Lutz.* 70, 213, 21-C1 (1989)

Line Profiles and the Kinematics of the Narrow-Line Region in Seyfert Galaxies. *M. M. De Robertis & Richard A. Shaw.* 348, 421, 7-G1 (1990)

Near-Infrared Emission-Line Spectra of the Orion Nebula, NGC 4151, and Other Seyfert Galaxies. *Donald E. Osterbrock, Richard A. Shaw, & Sylvain Veilleux.* 352, 561, 58-A7 (1990)

Large Planetary Nebulae and Their Significance to the Late Stages of Stellar Evolution. *James B. Kaler, Richard A. Shaw, & Karen B. Kwitter.* 359, 392, 140-G11 (1990)

SHAWL, STEPHEN J. Axial Ratios and Orientations for 100 Galactic Globular Star Clusters. *Raymond E. White & Stephen J. Shawl.* 317, 246, 66-E13 (1987)

SHAYA, E. J. The H I Distribution in Clouds within Galaxies. *E. J. Shaya & S. R. Federman.* 319, 76, 93-G9 (1987)

SHEA, M. A. Were Solar Neutrons Observed by Neutron Monitors on 1984 April 25? *D. F. Smart, M. A. Shea, E. O. Flückiger, H. Debrunner, & J. E. Humble.* 73, 269, 21-D5 (1990)

SHECTMAN, S. The Absorption-Line Spectrum of GC 1556+335: Ejected or Intervening Material? *Simon L. Morris, Ray J. Weymann, Craig B. Foltz, D. A. Turnshek, S. Shectman, C. Price, & T. A. Boroson.* 310, 40, 132-D12 (1986)

SHECTMAN, STEPHEN A. A Survey of the Bootes Void. *Robert P. Kirshner, Augustus Oemler, Jr., Paul L. Schechter, & Stephen A. Shectman.* 314, 493, 35-A2 (1987)

A Catalog of Candidate Field Horizontal-Branch Stars. I. *Timothy C. Beers, George W. Preston, & Stephen A. Shectman.* 67, 461, 18-D1 (1988)

A Catalog of Candidate Field Horizontal-Branch Stars. I: Erratum. *Timothy C. Beers, George W. Preston, & Stephen A. Shectman.* 70, 679, 28-A1 (1989) (Orig. paper in 67, 461, 18-D1 (1988))

SHEELEY, N. R., JR. Solar Filament Eruptions and Energetic Particle Events. *S. W. Kahler, E. W. Cliver, H. V. Cane, R. E. McGuire, R. G. Stone, & N. R. Sheeley, Jr.* 302, 504, 33-F9 (1986)
Solar Gradual Hard X-Ray Bursts and Associated Phenomena. *E. W. Cliver, B. R. Dennis, A. L. Kiplinger, S. R. Kane, D. F. Neidig, N. R. Sheeley, Jr., & M. J. Koomen.* 305, 920, 79-A12 (1986)
The Origin of Rigidly Rotating Magnetic Field Patterns on the Sun. *N. R. Sheeley, Jr., A. G. Nash, & Y.-M. Wang.* 319, 481, 98-D5 (1987)
The Quasi-rigid Rotation of Coronal Magnetic Fields. *Y.-M. Wang, N. R. Sheeley, Jr., A. G. Nash, & L. R. Shampine.* 327, 427, 51-F1 (1988)
Coronal Mass Ejections and Associated X-Ray Flare Durations. *S. W. Kahler, N. R. Sheeley, Jr., & M. Liggett.* 344, 1026, 146-F3 (1989)
Evolution of the Sun's Polar Fields during Sunspot Cycle 21: Poleward Surges and Long-Term Behavior. *Y.-M. Wang, A. G. Nash, & N. R. Sheeley, Jr.* 347, 529, 188-E3 (1989)
Solar Wind Speed and Coronal Flux-Tube Expansion. *Y.-M. Wang & N. R. Sheeley, Jr.* 355, 726, 97-E10 (1990)
Magnetic Flux Transport and the Sunspot-Cycle Evolution of Coronal Holes and Their Wind Streams. *Y.-M. Wang & N. R. Sheeley, Jr.* 365, 372, 211-A9 (1990)
SHEFFER, Y. High-Resolution Spectroscopy of the C_2 Swan 0–0 Band from Comet P/Halley. *D. L. Lambert, Y. Sheffer, A. C. Danks, C. Arpigny, & P. Magain.* 353, 640, 71-G6 (1990)
SHEFFER, YARON. CN, CH, and CH^+ toward ζ Ophiuchi. *David L. Lambert, Yaron Sheffer, & Philippe Crane.* 359, L19, 138-B11 (1990)
SHELTON, I. K. Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)
SHEMANSKY, D. E. Electron Impact Excitation of H_2: Rydberg Band Systems and the Benchmark Dissociative Cross Section of H Lyman-Alpha. *D. E. Shemansky, J. M. Ajello, & D. T. Hall.* 315, 408, 44-C14 (1987) (Orig. paper in 296, 765, 98-D6 (1985))
SHEMI, AMOTZ. The Appearance of Cosmic Fireballs. *Amotz Shemi & Tsvi Piran.* 365, L55, 219-C5 (1990)
SHEN, ZHIQIANG. Radio Observation of the Supernova Remnant HB 9 at 232 MHz. *Zhiqiang Shen, Xinji Wu, Xizhen Zhang, Yijia Zheng, Zong-wei Li, & D. A. Leahy.* 356, 241, 102-B1 (1990)
SHENG, HAN MING. Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)
SHEPHERD, D. W. Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)
SHEVGAONKAR, R. K. The Plasma and Magnetic Field Properties of Coronal Loops Observed at High Spatial Resolution. *D. F. Webb, G. D. Holman, J. M. Davis, M. R. Kundu, & R. K. Shevgaonkar.* 315, 716, 48-D11 (1987)
Variability of Metric Emission from the Sun. *R. K. Shevgaonkar, M. R. Kundu, & P. D. Jackson.* 329, 982, 87-G5 (1988)
Detection of the dMe Flare Star YZ Canis Minoris Simultaneously at 20 and 90 Centimeter Wavelengths. *M. R. Kundu & R. K. Shevgaonkar.* 334, 1001, 167-E9 (1988)
Time Variability of Solar Active Regions at Centimeter Wavelengths. *R. K. Shevgaonkar & M. R. Kundu.* 342, 586, 107-G14 (1989)
SHEVGAONKAR, RAGHUNATH K. Solar Coronal Bright Points Observed with the VLA. *Shadia R. Habbal, Robert S. Ronan, George L. Withbroe, Raghunath K. Shevgaonkar, & Mukul R. Kundu.* 306, 740, 92-E12 (1986)
SHIA, RUN-LIE. Radiative Transfer in a Sphere Illuminated by a Parallel Beam: An Integral Equation Approach. *Run-Lie Shia & Yuk L. Yung.* 301, 554, 21-F10 (1986)
SHIBAI, HIROSHI. A [C II] 158 Micron Map of the M17 Complex. *Hideo Matsuhara, Takao Nakagawa, Hiroshi Shibai, Haruyuki Okuda, Kohei Mizutani, Toshinori Maihara, Yukiyasu Kobayashi, Norihisa Hiromoto, Tetsuo Nishimura, & Frank J. Low.* 339, L67, 66-C11 (1989)
An Infrared Study of Starbursts in the Interacting Galaxy Pair Arp 299 (NGC 3690 + IC 694). *Takao Nakagawa, Tetsuya Nagata, T. R. Geballe, Haruyuki Okuda, Hiroshi Shibai, & Hideo Matsuhara.* 340, 729, 77-E1 (1989)
An Infrared Quintuplet near the Galactic Center. *Haruyuki Okuda, Hiroshi Shibai, Takao Nakagawa, Hideo Matsuhara, Yukiyasu Kobayashi, Norio Kaifu, Tetsuya Nagata, I. Gatley, & T. R. Geballe.* 351, 89, 39-B11 (1990)
Infrared Polarimetry of the NGC 6334 V Bipolar Nebula. *Takao Nakagawa, Tetsuya Nagata, Hideo Matsuhara, Haruyuki Okuda, Hiroshi Shibai, & Saeko S. Hayashi.* 351, 573, 47-C1 (1990)
SHIBANOV, YU. A. The Effect of Stimulated Scattering in Compact Sources. *P. Mészáros, G. G. Pavlov, & Yu. A. Shibanov.* 337, 426, 22-E7 (1989)
SHIBATA, K. Nonlinear Parker Instability of Isolated Magnetic Flux in a Plasma. *K. Shibata, T. Tajima, R. Matsumoto, T. Horiuchi, T. Hanawa, R. Rosner, & Y. Uchida.* 338, 471, 38-F6 (1989)
Two-dimensional Magnetohydrodynamic Model of Emerging Magnetic Flux in the Solar Atmosphere. *K. Shibata, T. Tajima, R. S. Steinolfson, & R. Matsumoto.* 345, 584, 156-C8 (1989)
Magnetic Accretion Disks Fall into Two Types. *K. Shibata, T. Tajima, & R. Matsumoto.* 350, 295, 28-F1 (1990)
Emergence of Solar Magnetic Flux from the Convection Zone into the Photosphere and Chromosphere. *K. Shibata, S. Nozawa, R. Matsumoto, A. C. Sterling, & T. Tajima.* 351, L25, 43-D1 (1990)
Nonlinear Excitation of Magnetic Undular Instability by Convective Motion. *M. Kaisig, T. Tajima, K. Shibata, S. Nozawa, & R. Matsumoto.* 358, 698, 132-C3 (1990)
SHIBATA, K. M. Expanding Molecular Torus around the Planetary Nebula IRAS 21282+5050. *K. M. Shibata, S. Tamura, S. Deguchi, N. Hirano, O. Kameya, & T. Kasuga.* 345, L55, 157-E9 (1989)
SHIBATA, KAZUNARI. Magnetic Model for Asymmetric Supernova Remnants. *Shin Mineshige & Kazunari Shibata.* 355, L47, 98-D8 (1990)
Nonlinear Parker Instability in Nonuniform Gravitational Fields: Nonlinear Oscillations and Shock Waves. *Ryoji Matsumoto, Toshiro Horiuchi, Tomoyuki Hanawa, & Kazunari Shibata.* 356, 259, 102-C8 (1990)
SHIBATA, S. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)
Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)
SHIBAZAKI, N. Power Spectra of Quasi-periodic Oscillations in Luminous X-Ray Stars. *N. Shibazaki & F. K. Lamb.* 318, 767, 89-C11 (1987)
Coherence Effects on Quasi-periodic Oscillations from Galactic X-Ray Sources. *R. F. Elsner, N. Shibazaki, & M. C. Weisskopf.* 320, 527, 115-C8 (1987)
The Effect of Decay of the Amplitude of Oscillation on Random Process Models for QPO X-Ray Stars. *N. Shibazaki, R. F. Elsner, & M. C. Weisskopf.* 322, 831, 149-A1 (1987)
The Effect of a Hot, Spherical Scattering Cloud on Quasi-periodic Oscillation Behavior. *R. W. Bussard, M. C. Weisskopf, R. F. Elsner, & N. Shibazaki.* 327, 284, 50-B6 (1988)
Moment Constraints on Physical Models for Quasi-periodic Oscillations from Galactic X-Ray Sources. *R. F. Elsner, N. Shibazaki, & M. C. Weisskopf.* 327, 742, 56-F10 (1988)

Shot Noise Cross-Correlation Functions and Cross Spectra: Implications for Models of QPO X-Ray Sources. *N. Shibazaki, R. F. Elsner, R. W. Bussard, T. Ebisuzaki, & M. C. Weisskopf.* 331, 247, 108-G2 (1988)

SHIBAZAKI, NORIAKI. The Effect of Mixing of the Ejecta on the Hard X-Ray Emissions from SN 1987A. *Toshikazu Ebisuzaki & Noriaki Shibazaki.* 327, L5, 53-A7 (1988)

The Effects of Mixing of the Ejecta on the Gamma-Ray Lines from SN 1987A. *Noriaki Shibazaki & Toshikazu Ebisuzaki.* 327, L9, 53-A11 (1988)

X-Ray and Gamma-Ray Emissions Expected from Supernova 1987A. *Toshikazu Ebisuzaki & Noriaki Shibazaki.* 328, 699, 70-F9 (1988)

Gamma-Ray Lines Produced by Low-Energy Cosmic Rays in SN 1987A. *Toshikazu Ebisuzaki, Yoshiyuki Takahashi, & Noriaki Shibazaki.* 340, 950, 80-B9 (1989)

Neutron Star Evolution with Internal Heating. *Noriaki Shibazaki & Frederick K. Lamb.* 346, 808, 177-D1 (1989)

SHIELDS, G. A. Accretion Disks and Periodic Outbursts of Active Galaxies Nuclei. *D. N. C. Lin & G. A. Shields.* 305, 28, 67-C6 (1986)

Compton-heated Winds and Coronae above Accretion Disks. III. Instability and Oscillations. *G. A. Shields, Christopher F. McKee, D. N. C. Lin, & Mitchell C. Begelman.* 306, 90, 82-C3 (1986)

The Composition Gradient across M81. *D. R. Garnett & G. A. Shields.* 317, 82, 64-G7 (1987)

On the Origin of Dwarf Galaxies. *Joseph Silk, Rosemary F. G. Wyse, & G. A. Shields.* 322, L59, 152-A9 (1987)

Polarization of Thermal Radiation from Accretion Disks in Dwarf Novae. *F. H. Cheng, G. A. Shields, D. N. C. Lin, & J. E. Pringle.* 328, 223, 64-D4 (1988)

Thermal Light Variations of Active Galactic Nuclei. *C. J. Clarke & G. A. Shields.* 338, 32, 33-D1 (1989)

Accretion Disk Thermal Instability in Galactic Nuclei. *S. Mineshige & G. A. Shields.* 351, 47, 38-E11 (1990)

The Polarization of Thermal Radiation from Supermassive Accretion Disks. *H. H. Coleman & G. A. Shields.* 363, 415, 189-C7 (1990)

SHIELDS, GREGORY A. Reassessing the Primordial Helium Abundance: New Observations of NGC 4861 and CG 1116+51. *Harriet L. Dinerstein & Gregory A. Shields.* 311, 45, 146-D14 (1986)

The Abundances of Carbon and Nitrogen in I Zw 18. *Reginald J. Dufour, Donald R. Garnett, & Gregory A. Shields.* 332, 752, 132-F5 (1988)

SHIELDS, JOSEPH C. Blue Stragglers as the Source of the High-Velocity A Stars. *Joseph C. Shields & Bruce A. Twarog.* 324, 859, 12-G4 (1988)

Extended Broad-Line Emission in the Obscured Seyfert 1 Nucleus of NGC 4388. *Joseph C. Shields & Alexei V. Filippenko.* 332, L55, 137-B9 (1988)

Discovery of a Massive, Young Star Cluster in the Filaments of NGC 1275. *Joseph C. Shields & Alexei V. Filippenko.* 353, L7, 67-B1 (1990)

SHIGEYAMA, TOSHIKAZU. Rayleigh-Taylor Instability and Mixing in SN 1987A. *Toshikazu Ebisuzaki, Toshikazu Shigeyama, & Ken'ichi Nomoto.* 344, L65, 148-C5 (1989)

Gamma Rays, X-Rays, and Optical Light from the Cobalt and the Neutron Star in SN 1987A. *Shiomi Kumagai, Toshikazu Shigeyama, Ken'ichi Nomoto, Masayuki Itoh, Jun Nishimura, & Sachiko Tsuruta.* 345, 412, 154-C5 (1989)

Nonlinear Growth of Rayleigh-Taylor Instabilities and Mixing in SN 1987A. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 358, L57, 133-D6 (1990)

Theoretical Light Curve of SN 1987A and Mixing of Hydrogen and Nickel in the Ejecta. *Toshikazu Shigeyama & Ken'ichi Nomoto.* 360, 242, 148-A9 (1990)

Low-Mass Helium Star Models for Type Ib Supernovae: Light Curves, Mixing, and Nucleosynthesis. *Toshikazu Shigeyama, Ken'ichi Nomoto, Takuji Tsujimoto, & Masa-aki Hashimoto.* 361, L23, 161-F1 (1990)

SHIMA, M. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

SHIMIZU, H. M. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

SHINBROT, TROY. A Chaotic Attractor in Timing Noise from the Vela Pulsar? *Alice K. Harding, Troy Shinbrot, & James M. Cordes.* 353, 588, 71-C1 (1990)

SHINE, R. A. Spectral Line Profiles of Fe XXI 1354.1 Å from the *Solar Maximum Mission*. *H. E. Mason, R. A. Shine, J. B. Gurman, & R. A. Harrison.* 309, 435, 124-F2 (1986)

SMM Observations of Si IV and O IV Bursts in Solar Active Regions. *Marion Hayes & R. A. Shine.* 312, 943, 13-C6 (1987)

On the Relation between Photospheric Flow Fields and the Magnetic Field Distribution on the Solar Surface. *George W. Simon, A. M. Title, K. P. Topka, T. D. Tarbell, R. A. Shine, S. H. Ferguson, H. Zirin, & The SOUP Team.* 327, 964, 59-C1 (1988)

Statistical Properties of Solar Granulation Derived from the SOUP Instrument on *Spacelab 2*. *A. M. Title, T. D. Tarbell, K. P. Topka, S. H. Ferguson, R. A. Shine, & The SOUP Team.* 336, 475, 7-A10 (1989)

SHINOHARA, N. A High-Speed Shock Wave in the Impulsive Phase of the 1984 April 24 Flare. *H. Nakajima, S. Kawashima, N. Shinohara, Y. Shiomi, S. Enome, & E. Rieger.* 73, 177, 20-B1 (1990)

SHIOMI, T. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

SHIOMI, Y. A High-Speed Shock Wave in the Impulsive Phase of the 1984 April 24 Flare. *H. Nakajima, S. Kawashima, N. Shinohara, Y. Shiomi, S. Enome, & E. Rieger.* 73, 177, 20-B1 (1990)

SHIPMAN, H. L. An X-Ray Survey of Hot White Dwarf Stars: Evidence for a n(He)/n(H) versus $T_{\rm eff}$ Correlation. *R. Petre, H. L. Shipman, & C. R. Canizares.* 304, 356, 57-G1 (1986)

EXOSAT Observations of V471 Tauri: A 9.25 Minute White Dwarf Pulsation and Orbital Phase Dependent X-Ray Dips. *K. A. Jensen, J. H. Swank, R. Petre, E. F. Guinan, E. M. Sion, & H. L. Shipman.* 309, L27, 125-E5 (1986)

SHIPMAN, HARRY L. CBS 78: A Second Extremely Rare DBZ Degenerate Star with Accreted Calcium. *Edward M. Sion, Harry L. Shipman, R. Mark Wagner, James Liebert, & Sumner G. Starrfield.* 308, L67, 120-G2 (1986)

H1504+65: An Extraordinarily Hot Compact Star Devoid of Hydrogen and Helium. *J. A. Nousek, Harry L. Shipman, J. B. Holberg, James Liebert, Steven H. Pravdo, N. E. White, & Paolo Giommi.* 309, 230, 122-D9 (1986)

Temperatures for Hot and Pulsating DB White Dwarfs Obtained with the *IUE* Observatory. *James Liebert, F. Wesemael, C. J. Hansen, G. Fontaine, Harry L. Shipman, Edward M. Sion, D. E. Winget, & Richard F. Green.* 309, 241, 122-E7 (1986)

Planetary Nebula Central Stars: A Detailed Examination of the Sensitivity of the Zanstra Temperature Method to Stellar and

Nebular Parameters. *Richard B. C. Henry & Harry L. Shipman.* 311, 774, 156-C1 (1986)

The DBA White Dwarf Stars in the Palomar-Green Sample. *Harry L. Shipman, James Liebert, & Richard F. Green.* 315, 239, 42-E8 (1987)

Hydrogen Line Emission from Optically Thin Accretion Disks. *Glen A. Williams & Harry L. Shipman.* 326, 738, 41-F8 (1988)

The Detection of Photospheric Calcium in a DBA White Dwarf. *Scott J. Kenyon, Harry L. Shipman, Edward M. Sion, & Per A. Aannestad.* 328, L65, 74-F4 (1988)

An Atmospheric Analysis of the Carbon-rich White Dwarf G35-26. *Peter Thejll, Harry L. Shipman, James MacDonald, & W. M. MacFarland.* 361, 197, 159-D5 (1990)

On the Interpretation of the *EXOSAT* Photometry of Two Hot DA White Dwarfs. *Stéphane Vennes, Harry L. Shipman, & Robert Petre.* 364, 647, 204-B13 (1990)

SHIRATORI, YUTAKA. Detection of a New Circumstellar Carbon Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)

SHIVANANDAN, K. Far-Infrared and Radio Observations of DR 6, DR 7, and DR 22. *S. Odenwald, K. Shivanandan, M. Campbell, G. Fazio, P. Schwartz, & H. Moseley.* 306, 122, 82-E7 (1986)

SHLOSMAN, I. Fourier Analysis of the Light Curves of the RR Lyrae Stars in the Globular Clusters M15, NGC 6171, and NGC 6723. *G. Kovács, I. Shlosman, & J. R. Buchler.* 307, 593, 103-D7 (1986)

SHLOSMAN, ISAAC. Line-driven Winds from Accretion Disks. I. Effects of the Ionization Structure. *Peter A. J. Vitello & Isaac Shlosman.* 327, 680, 56-B4 (1988)

Ultra–High-Energy Photons from Active Galactic Nuclei: Theory. *Marek Sikora & Isaac Shlosman.* 336, 593, 10-A1 (1989)

Evolution of Self-Gravitating Accretion Disks in Active Galactic Nuclei. *Isaac Shlosman & Mitchell C. Begelman.* 341, 685, 93-G1 (1989)

On the Stability of Kuzmin/Toomre Disks. *Juhan Frank & Isaac Shlosman.* 346, 118, 167-E1 (1989)

SHLYAKHTER, A. I. Enhancement of Nucleosynthesis Reaction Rates Due to Nonthermalized Fast Neutrons. *Yu. V. Petrov & A. I. Shlyakhter.* 327, 294, 50-C2 (1988)

SHORE, S. N. Sanduleak's Star (LMC Anonymous): Its Similarity in the Far-Ultraviolet with the Luminous Object η Carinae and SN 1987A. *A. G. Michalitsianos, M. Kafatos, & S. N. Shore.* 341, 367, 88-C11 (1989)

SHORE, STEVEN N. The Effects of Stimulated Star Formation on the Evolution of the Galaxy. III. The Chemical Evolution of Nonlinear Systems. *Steven N. Shore, Federico Ferrini, & Francesco Palla.* 316, 663, 59-C14 (1987)

Colliding Stellar Winds in the Eclipsing Wolf-Rayet Binary V444 Cygni. *Steven N. Shore & Douglas N. Brown.* 334, 1021, 167-G1 (1988)

Highly Ionized Stellar Winds in Be Stars. II. Winds in B6–B9.5e Stars. *C. A. Grady, K. S. Bjorkman, T. P. Snow, George Sonneborn, Steven N. Shore, & Paul K. Barker.* 339, 403, 55-A8 (1989)

The Energetics and Evolution of Jet-fed Radio Sources. *Jean A. Eilek & Steven N. Shore.* 342, 187, 103-C2 (1989)

The Discovery of Magnetically Controlled Circumstellar Matter in the Helium-weak Stars HD 5737 and HD 79158. *Steven N. Shore, Douglas N. Brown, George Sonneborn, John D. Landstreet, & David A. Bohlender.* 348, 242, 4-A5 (1990)

Dense Molecular Gas, Star Formation, and the CO to H_2 Conversion Factor in Nearby Galaxies. *Leslie J. Sage, Steven N. Shore, & P. M. Solomon.* 351, 422, 45-C10 (1990)

A Multiwavelength Study of the Carlson-Henize Sample of Early-Type Galactic Extreme Emission-Line Stars. *Steven N. Shore, Douglas N. Brown, B. W. Bopp, C. R. Robinson, N. Sanduleak, & P. D. Feldman.* 73, 461, 24-F11 (1990)

MCG 06-45-001: Not a Local Group Galaxy. *Steven N. Shore & Leslie J. Sage.* 362, L9, 174-B5 (1990)

Magnetically Controlled Circumstellar Matter in the Helium-strong Stars. *Steven N. Shore & Douglas N. Brown.* 365, 665, 216-E1 (1990)

SHORTENHAUS, DAN. Oscillator Strengths of the CN Red System. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engleman, Jr., John G. Phillips, & Robert P. Hubbard.* 303, 892, 52-D8 (1986)

Oscillator Strengths of the CN Red System: Erratum. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engelman, Jr., John G. Phillips, & Robert P. Hubbard.* 307, 414, 99-E10 (1986) (Orig. paper in 303, 892, 52-D8 (1986))

SHOUB, EDWARD C. Line Broadening of Mg X $\lambda\lambda$609 and 625 Coronal Emission Lines Observed above the Solar Limb. *Donald M. Hassler, Gary J. Rottman, Edward C. Shoub, & Thomas E. Holzer.* 348, L77, 13-D6 (1990)

SHRADER, CHRIS R. An Intermediate-Sensitivity Survey at High Galactic Latitude with *HEAO* A-1. *Chris R. Shrader, K. S. Wood, & Terry Matilsky.* 61, 353, 22-B6 (1986)

SHU, FRANK H. Infrared Spectra of Rotating Protostars. *Fred C. Adams & Frank H. Shu.* 308, 836, 118-B1 (1986)

Spectral Evolution of Young Stellar Objects. *Fred C. Adams, Charles J. Lada, & Frank H. Shu.* 312, 788, 11-E3 (1987)

On Statistical Mechanical Theories of Violent Relaxation. *Frank H. Shu.* 316, 502, 57-E1 (1987)

The Disks of T Tauri Stars with Flat Infrared Spectra. *Fred C. Adams, Charles J. Lada, & Frank H. Shu.* 326, 865, 43-A11 (1988)

Mass Loss from Rapidly Rotating Magnetic Protostars. *Frank H. Shu, Susana Lizano, Steven P. Ruden, & Joan Najita.* 328, L19, 66-E7 (1988)

Neutral Stellar Winds That Drive Bipolar Outflows in Low-Mass Protostars. *Susana Lizano, Carl Heiles, Luis F. Rodríguez, Bon-Chul Koo, Frank H. Shu, T. Hasegawa, S. Hayashi, & I. F. Mirabel.* 328, 763, 71-D7 (1988)

Molecular Cloud Cores and Bimodal Star Formation. *Susana Lizano & Frank H. Shu.* 342, 834, 112-F7 (1989)

Eccentric Gravitational Instabilities in Nearly Keplerian Disks. *Fred C. Adams, Steven P. Ruden, & Frank H. Shu.* 347, 959, 195-D11 (1989)

SLING Amplification and Eccentric Gravitational Instabilities in Gaseous Disks. *Frank H. Shu, Scott Tremaine, Fred C. Adams, & Steven P. Ruden.* 358, 495, 129-F7 (1990)

Thermal Structure of Neutral Winds from Young Stellar Objects. *Steven P. Ruden, Alfred E. Glassgold, & Frank H. Shu.* 361, 546, 164-G10 (1990)

SHU, P. K. Structure in the Nucleus of NGC 1068 at 10 Microns. *R. Tresch-Fienberg, G. G. Fazio, D. Y. Gezari, W. F. Hoffmann, G. M. Lamb, P. K. Shu, & C. R. McCreight.* 312, 542, 8-G2 (1987)

SHUE, DAVID R. ψ^2 and *C* Statistic Minimization for Low Count per Bin Data. *John A. Nousek & David R. Shue.* 342, 1207, 117-A1 (1989)

SHUKLA, PADMA K. Alfvén Vortices in a Strongly Magnetized Electron-Positron Plasma. *M. Y. Yu, Padma K. Shukla, & L. Stenflo.* 309, L63, 125-G11 (1986)

SHULAMI, I. "Flux Conservations" by a Schwarzschild Gravitational Lens. *Y. Avni & I. Shulami.* 332, 113, 124-C11 (1988)

SHULL, J. MICHAEL. The Extent of the Local H I Halo. *Felix J. Lockman, L. M. Hobbs, & J. Michael Shull.* 301, 380, 18-A8 (1986)

Molecular Processes and Gravitational Collapse in Intergalactic Shocks. *Mordecai-Mark Mac Low & J. Michael Shull.* 302, 585, 37-A7 (1986)

Broad, Variable Absorption Lines in the Seyfert Galaxy NGC 3516: Probing the Structure of the Emssion-Line Regions. *G. Mark Voit, J. Michael Shull, & Mitchell C. Begelman.* 316, 573, 58-C5 (1987)

Inside Supernova 1987A. *Richard McCray, J. Michael Shull, & Peter Sutherland.* 317, L73, 78-C7 (1987)

Can Quasars Ionize the Intergalactic Medium? *Megan Donahue & J. Michael Shull.* 323, L13, 158-B1 (1987)

Galactic Interstellar Abundance Surveys with *IUE*. II. The Equivalent Widths and Column Densities. *Michael E. Van Steenberg & J. Michael Shull.* 67, 225, 14-A1 (1988)

Galactic Interstellar Abundance Surveys with *IUE*. III. Silicon, Manganese, Iron, Sulfur, and Zinc. *Michael E. Van Steenberg & J. Michael Shull.* 330, 942, 102-G7 (1988)

X-Ray–induced Stellar Mass Loss near Active Galactic Nuclei. *G. Mark Voit & J. Michael Shull.* 331, 197, 108-C1 (1988)

Hydromagnetic Wave Heating of the Low-Density Interstellar Medium. *Katia M. Ferrière, Ellen G. Zweibel, & J. Michael Shull.* 332, 984, 135-C5 (1988)

IUE–IRAS Studies of the Infrared Cirrus. *Michael E. Van Steenberg & J. Michael Shull.* 335, 197, 172-F1 (1988)

Oscillator Strengths for Si II. *Ding Luo, Anil K. Pradhan, & J. Michael Shull.* 335, 498, 176-C9 (1988)

Two-Temperature Radiative Shocks with Electron Thermal Conduction. *Kazimierz J. Borkowski, J. Michael Shull, & Christopher F. McKee.* 336, 979, 14-F1 (1989)

Galactic Interstellar Abundance Surveys with *IUE*. III. Silicon, Manganese, Iron, Sulfur, and Zinc: Erratum. *Michael E. Van Steenberg & J. Michael Shull.* 340, 624, 75-A9 (1989) (Orig. paper in 330, 942, 102-G7 (1988))

Pulsar Reenergization of Old Supernova Remnant Shells. *J. Michael Shull, Robert A. Fesen, & Jon M. Saken.* 346, 860, 178-A1 (1989)

Pure-Oxygen Radiative Shocks with Electron Thermal Conduction. *Kazimierz J. Borkowski & J. Michael Shull.* 348, 169, 3-B5 (1990)

The Influence of Oort Clouds on the Mass and Chemical Balance of the Interstellar Medium. *S. Alan Stern & J. Michael Shull.* 359, 506, 142-C10 (1990)

Detection of an Expanding H I Shell in the Old Supernova Remnant CTB 80. *Bon-Chul Koo, William T. Reach, Carl Heiles, Robert A. Fesen, & J. Michael Shull.* 364, 178, 196-C5 (1990)

SHUMARD, E. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

SHUPE, D. L. An Isolated, Well-defined Infrared Cirrus Cloud. *T. Herter, D. L. Shupe, & D. F. Chernoff.* 352, 149, 51-G6 (1990)

SHURE, M. A. Unipolar Bubbles in Star-forming Regions. *W. J. Forrest & M. A. Shure.* 311, L81, 160-E4 (1986)

Direct Infrared Imaging of VB 8. *M. F. Skrutskie, W. J. Forrest, & M. A. Shure.* 312, L55, 14-C11 (1987)

Near-Infrared Images of the Bipolar Nebula OH 0739−14. *C. E. Woodward, W. J. Forrest, J. L. Pipher, A. Moneti, & M. A. Shure.* 337, 754, 28-D2 (1989)

SHURE, MARK. A Possible Brown Dwarf Companion to Gliese 569. *W. J. Forrest, M. F. Skrutskie, & Mark Shure.* 330, L119, 105-A4 (1988)

Spectroscopic Images of NGC 7027 in the Near-Infrared Dust Emission Features. *C. E. Woodward, Judith L. Pipher, Mark Shure, W. J. Forrest, & K. Sellgren.* 342, 860, 113-A7 (1989)

AFGL 2004: An Infrared Quintuplet near the Galactic Center. *Tetsuya Nagata, Charles E. Woodward, Mark Shure, Judith L. Pipher, & Haruyuki Okuda.* 351, 83, 39-B1 (1990)

SHUTER, W. L. H. Phase Modulation of the Sun's *z* Oscillations. *W. L. H. Shuter & C. Klatt.* 301, 471, 19-A6 (1986)

A Search for Vibrationally Excited Interstellar H_2^+. *W. L. H. Shuter, D. R. W. Williams, Shrinivas R. Kulkarni, & C. Heiles.* 306, 255, 84-B1 (1986)

Velocity Waves in 21 Centimeter Self-Absorption toward the Taurus Molecular Complex. *W. L. H. Shuter, R. L. Dickman, & C. Klatt.* 322, L103, 152-D8 (1987)

SIAH, M. JAVAD. Beam Models for Radio Sources. V. Collimation in More Realistic Galactic Potentials. *Paul J. Wiita & M. Javad Siah.* 300, 605, 9-F10 (1986)

Beam Models for Radio Sources. VI. Evolution of Magnetized Jets in Power-Law Potentials. *M. Javad Siah & Paul J. Wiita.* 313, 623, 23-E8 (1987)

Synchrotron Aging in Radio Sources. I. Spatial Variations in Radio Lobes. *M. Javad Siah & Paul J. Wiita.* 363, 411, 189-C1 (1990)

SICARDY, BRUNO. Structure of Scintillations in Neptune's Occultation Shadow. *W. B. Hubbard, Emmanuel Lellouch, Bruno Sicardy, André Brahic, Faith Vilas, Patrice Bouchet, Robert A. McLaren, & C. Perrier.* 325, 490, 24-E6 (1988)

SICILIANO, ELIZABETH D. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

SIEGBAHN, PER E. M. Complete Active Space Self-consistent Field Calculations of the Vibrational Band Strengths for C_3. *Uffe G. Jørgensen, Jan Almlöf, & Per E. M. Siegbahn.* 343, 554, 124-G11 (1989)

SIEGEL, MICHAEL J. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

SIEGELMAN, RUSSELL. On the Number of Comets around Other Single Stars. *Charles Alcock, Carl C. Fristrom, & Russell Siegelman.* 302, 462, 33-C6 (1986)

SIENKIEWICZ, R. Mixing and the Solar Neutrino Problem. *R. Sienkiewicz, J. N. Bahcall, & B. Paczyński.* 349, 641, 23-C1 (1990)

SIENKIEWICZ, RYSZARD. Neutrino Emission from Solar Models with a Metal-depleted Core. *Ryszard Sienkiewicz, Bohdan Paczyński, & Stephen J. Ratcliff.* 326, 392, 36-E7 (1988)

SIKORA, MAREK. Thermal and Dynamical Effects of Pair Production on Two-Temperature Accretion Flows. *Mitchell C. Begelman, Marek Sikora, & Martin J. Rees.* 313, 689, 24-C12 (1987)

Electron Injection by Relativistic Protons in Active Galactic Nuclei. *Marek Sikora, John G. Kirk, Mitchell C. Begelman, & Peter Schneider.* 320, L81, 121-B1 (1987)

Inverse Compton Scattering of Ambient Radiation by a Cold Relativistic Jet: A Source of Beamed, Polarized X-Ray and Optical Observations of X-Ray–selected BL Lacertae Objects. *Mitchell C. Begelman, Marek Sikora, P. Giommi, P. Barr, B. Garilli, I. M. Gioia, T. Maccacaro, D. Maccagni, & R. E. Schild.* 322, 650, 146-G12 (1987)

Ultra–High-Energy Photons from Active Galactic Nuclei: Theory. *Marek Sikora & Isaac Shlosman.* 336, 593, 10-A1 (1989)

Self-absorbed Synchrotron Sources in Active Galactic Nuclei. *Martijn de Kool, Mitchell C. Begelman, & Marek Sikora.* 337, 66, 17-G5 (1989)

Relativistic Neutrons in Active Galactic Nuclei. *Marek Sikora, Mitchell C. Begelman, & Bronislaw Rudak.* 341, L33, 99-E1 (1989)

Consequences of Relativistic Proton Injection in Active Galactic Nuclei. *Mitchell C. Begelman, Bronisław Rudak, & Marek Sikora.* 362, 38, 169-E3 (1990)

SILBERBERG, R. An Explanation for Cosmic-Ray Source Abundances Including Nitrogen. *R. Silberberg & C. H. Tsao.* 352, L49, 61-D1 (1990)

Source Composition of Cosmic Rays at Energies 1–1000 TeV per Nucleon. *R. Silberberg, C. H. Tsao, M. M. Shapiro, & P. L. Biermann.* 363, 265, 185-D3 (1990)

SILBERBERG, REIN. Distributed Reacceleration of Cosmic Rays. *Amri Wandel, David Eichler, John R. Letaw, Rein Silberberg, & C. H. Tsao.* 316, 676, 59-D13 (1987)

SILK, J. Bimodal Star Formation: Constraints from the Solar Neighborhood. *Rosemary F. G. Wyse & J. Silk.* 313, L11, 21-A13 (1987)

Lyman-Alpha Clouds as a Relic of Primordial Density Fluctuations. *J. R. Bond, A. S. Szalay, & J. Silk.* 324, 627, 10-C1 (1988)

Anisotropies in the Microwave Sky Due to Nonlinear Structures. *E. Martínez-González, J. L. Sanz, & J. Silk.* 355, L5, 92-B1 (1990)

The Morphology-Density Relation for Galaxies in a Cold Dark Matter–dominated Universe. *A. E. Evrard, J. Silk, & A. S. Szalay.* 365, 13, 206-C1 (1990)

SILK, JOSEPH. The Universe between $z = 10$ and $z = 1000$: Spectral Constraints on Reheating. *Albert Stebbins & Joseph Silk.* 300, 1, 1-A4 (1986)

The Origin of Dwarf Galaxies, Cold Dark Matter, and Biased Galaxy Formation. *Avishai Dekel & Joseph Silk.* 303, 39, 41-D6 (1986)

Self-regulated Cooling Flows in Elliptical Galaxies and in Cluster Cores: Is Excusively Low Mass Star Formation Really Necessary?

Joseph Silk, S. Djorgovski, Rosemary F. G. Wyse, & Gustavo Bruzual A. 307, 415, 101-C1 (1986)

A Gamma-Ray Constraint on the Nature of Dark Matter. *Joseph Silk & Hans Bloemen.* 313, L47, 27-B5 (1987)

Ionization-regulated Star Formation in Magnetized Molecular Clouds. *Ralph E. Pudritz & Joseph Silk.* 316, 213, 52-C10 (1987)

Does Lower Ω Allow a Resolution of the Large-Scale Structure Problem? *Joseph Silk & Nicola Vittorio.* 317, 564, 72-C8 (1987)

Bimodal Star Formation: Constraints from Galaxy Colors at High Redshift. *Rosemary F. G. Wyse & Joseph Silk.* 319, L1, 100-A4 (1987)

Cosmic String Wakes. *Albert Stebbins, Shoba Veeraraghavan, Robert Brandenberger, Joseph Silk, & Neil Turok.* 322, 1, 138-A7 (1987)

On the Origin of Dwarf Galaxies. *Joseph Silk, Rosemary F. G. Wyse, & G. A. Shields.* 322, L59, 152-A9 (1987)

Minimal Cosmic Background Fluctuations Implied by Streaming Motions. *Roman Juszkiewicz, Krzysztof Górski, & Joseph Silk.* 323, L1, 158-A4 (1987)

Double Inflation: A Possible Resolution of the Large-Scale Structure Problem. *Michael S. Turner, Jens V. Villumsen, Nicola Vittorio, Joseph Silk, & Roman Juszkiewicz.* 323, 423, 159-C1 (1987)

Primeval Galaxies and Cold Dark Matter. *Joseph Silk & Alexander Szalay.* 323, L107, 164-B4 (1987)

Self-similar Dynamics of Polytropic Gaseous Spheres. *Yasushi Suto & Joseph Silk.* 326, 527, 39-C11 (1988)

Cold, Warm, or Hot Dark Matter: Biased Galaxy Formation and Pancakes. *Richard Schaeffer & Joseph Silk.* 332, 1, 123-A9 (1988)

Hot Gas in Evolving Galaxy Clusters and Groups: Implications for the Microwave and X-Ray Backgrounds. *Richard Schaeffer & Joseph Silk.* 333, 509, 145-D5 (1988)

Stability of Collapsing Isothermal Spheres. *Joseph Silk & Yasushi Suto.* 335, 295, 173-G1 (1988)

A Stellar Evolution Bound on Radiative Particle Decays and the Cosmic Microwave Background Distortion. *Georg Raffelt, David Dearborn, & Joseph Silk.* 336, 61, 1-G1 (1989)

A Stellar Probe of Dark Matter Annihilation in Galactic Nuclei. *Pierre Salati & Joseph Silk.* 338, 24, 33-C4 (1989)

Star Formation Rates and Abundance Gradients in Disk Galaxies. *Rosemary F. G. Wyse & Joseph Silk.* 339, 700, 60-E1 (1989)

Primordial Lithium and Galactic Chemical Evolution. *Jean Audouze & Joseph Silk.* 342, L5, 109-A10 (1989)

The Origin of Magnetic Fields and Primordial Stars in Protogalaxies. *Ralph E. Pudritz & Joseph Silk.* 342, 650, 110-F1 (1989)

Is Cosmic Drift a Cosmic Myth? *Joseph Silk.* 345, L1, 157-A6 (1989)

Large-Scale Cosmic Microwave Background Anisotropies in Isocurvature Baryon Open Universe Models. *Krzysztof M. Górski & Joseph Silk.* 346, L1, 173-A6 (1989)

Dust Obscuration by an Evolving Galaxy Population. *Joan Najita, Joseph Silk, & Kenneth W. Wachter.* 348, 383, 7-D1 (1990)

Neutron Stars and White Dwarfs in Galactic Halos? *Dongsu Ryu, Keith A. Olive, & Joseph Silk.* 353, 81, 63-B1 (1990)

A Comptonization Model for the Submillimeter Background. *James G. Bartlett & Joseph Silk.* 353, 399, 69-A7 (1990)

Dark Matter and Thermal Pulses in Horizontal-Branch Stars. *David Dearborn, Georg Raffelt, Pierre Salati, Joseph Silk, & Alain Bouquet.* 354, 568, 83-D3 (1990)

The White Dwarf Luminosity Function: A Possible Probe of the Galactic Halo. *Christopher M. Tamanaha, Joseph Silk, M. A. Wood, & D. E. Winget.* 358, 164, 124-A12 (1990)

SILLANPÄÄ, A. OJ 287: Binary Pair of Supermassive Black Holes. *A. Sillanpää, S. Haarala, M. J. Valtonen, B. Sundelius, & G. G. Byrd.* 325, 628, 27-D6 (1988)

SILVA, A. Observation of the OH 1667 MHz Line toward Comet Halley from the Southern Hemisphere. *E. Bajaja, R. Morras, W. G. L. Pöppel, J. C. Cersosimo, M. C. Martin, J. Mazzaro, J. C. Olalde, A. Silva, E. M. Arnal, F. R. Colomb, I. F. Mirabel, & V. Boriakoff.* 322, 549, 144-A1 (1987)

SILVA, A. M. Comet Halley: OH Absorption of Galactic Background Radio Sources. *E. Bajaja, E. M. Arnal, J. C. Cerosimo, F. R. Colomb, M. C. Martin, J. Mazzaro, R. Morras, J. C. Olalde, W. G. L. Poppel, A. M. Silva, I. F. Mirabel, & V. Boriakoff.* 313, 906, 26-F2 (1987)

SILVERBERG, R. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

SILVERBERG, R. F. Molecular Clouds and Star Formation in the Inner Galaxy: A Comparison of CO, H II, and Far-Infrared Surveys. *P. C. Myers, T. M. Dame, P. Thaddeus, R. S. Cohen, R. F. Silverberg, E. Dwek, & M. G. Hauser.* 301, 398, 18-B12 (1986)

Far-Infrared Spectrophotometry of SN 1987A: Days 265 and 267. *S. H. Moseley, E. Dwek, W. Glaccum, J. R. Graham, R. F. Loewenstein, & R. F. Silverberg.* 347, 1119, 197-E1 (1989)

A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

SILVERGLATE, PETER R. Detection of Atomic Hydrogen in the Young Planetary Nebula IC 4997. *Daniel R. Altschuler, Stephen E. Schneider, Carlo Giovanardi, & Peter R. Silverglate.* 305, L85, 80-E7 (1986)

Atomic Hydrogen in Planetary Nebulae. *Stephen E. Schneider, Peter R. Silverglate, Daniel R. Altschuler, & Carlo Giovanardi.* 314, 572, 35-G1 (1987)

SILVERSTEIN, E. M. OH Masers and the Galactic Magnetic Field. *M. J. Reid & E. M. Silverstein.* 361, 483, 164-B2 (1990)

SIMARD-NORMANDIN, M. Linear Polarization Observations in Selected Celestial Zones: The Central Region of Our Galaxy. *R. C. Bignell, M. Simard-Normandin, & J. P. Vallée.* 67, 279, 16-E1 (1988)

Excess Rotation Measure and Large-Scale Magnetic Field in the Scutum Spiral Arm of Our Galaxy. *J. P. Vallée, M. Simard-Normandin, & R. C. Bignell.* 331, 321, 109-F9 (1988)

SIMARI, G. Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

SIME, D. G. Solar Coronal and Magnetic Field Observations near the Time of the 1988 March 18 Solar Eclipse. *D. G. Sime, R. R. Fisher, & D. L. Mickey.* 333, L103, 152-G6 (1988)

Rotation Characteristics of the Fe XIV (5303 Å) Solar Corona. *D. G. Sime, R. R. Fisher, & R. C. Altrock.* 336, 454, 6-G3 (1989)

SIMIEN, F. Systematics of Bulge-to-Disk Ratios. *F. Simien & G. de Vaucouleurs.* 302, 564, 36-F1 (1986)

SIMILON, PHILIPPE L. Energy Dissipation of Alfvén Wave Packets Deformed by Irregular Magnetic Fields in Solar-Coronal Arches. *Philippe L. Similon & R. N. Sudan.* 336, 442, 6-F3 (1989)

SIMKIN, S. M. A Double-lobed Radio Galaxy with Spiral Structure? *S. M. Simkin & April Michel.* 300, L5, 7-A8 (1986)

Optical Spectroscopy of the Southwest Radio Lobe in 3C 33. *S. M. Simkin.* 309, 100, 121-B3 (1986)

SIMMONS, KAREN E. Features in Saturn's Rings. *Larry W. Esposito, Craig C. Harris, & Karen E. Simmons.* 63, 749, 11-G1 (1987)

SIMNETT, G. M. On the Proton Origin of a Small Gamma-Ray Solar Flare. *J. M. Ryan & G. M. Simnett.* 341, 506, 90-B4 (1989)

Evaporation in the Transition Region during the Gradual Phase of Flares. *B. Schmieder, J. M. Malherbe, G. M. Simnett, T. G. Forbes, & E. Tandberg-Hanssen.* 356, 720, 109-B9 (1990)

SIMON, G. W. Simulation of Large-Scale Flows at the Solar Surface. *G. W. Simon & N. O. Weiss.* 345, 1060, 163-F6 (1989)

SIMON, GEORGE W. On the Relation between Photospheric Flow Fields and the Magnetic Field Distribution on the Solar Surface. *George W. Simon, A. M. Title, K. P. Topka, T. D. Tarbell, R. A. Shine, S. H. Ferguson, H. Zirin, & The SOUP Team.* 327, 964, 59-C1 (1988)

Precise Proper-Motion Measurement of Solar Granulation. *Laurence J. November & George W. Simon.* 333, 427, 142-G2 (1988)

SIMON, J. D/H for Uranus and Neptune. *Wm. Hayden Smith, W. V. Schempp, J. Simon, & Kevin H. Baines.* 336, 962, 14-D9 (1989)
SIMON, M. Propagation of Injected Cosmic Rays under Distributed Reacceleration. *M. Simon, W. Heinrich, & K. D. Mathis.* 300, 32, 1-C10 (1986)
Lunar Occultations of *IRAS* Point Sources, 1986–1990. *M. Simon, L. Cassar, & W.-P. Chen.* 62, 673, 39-G2 (1986)
Velocity-resolved Infrared Spectroscopy of MWC 349. *F. Hamann & M. Simon.* 311, 909, 157-F13 (1986)
The Infrared Emission-Line Spectrum of γ Cassiopeiae. *F. Hamann & M. Simon.* 318, 356, 82-F10 (1987)
Milliarcsecond Resolution Infrared Observations of Young Stars in Taurus and Ophiuchus. *M. Simon, R. R. Howell, A. J. Longmore, B. A. Wilking, D. M. Peterson, & W.-P. Chen.* 320, 344, 111-G3 (1987)
Molecular Hydrogen Line Emission in Seyfert Galactic Nuclei. *J. Fischer, T. R. Geballe, Howard A. Smith, M. Simon, & J. W. V. Storey.* 320, 667, 117-B2 (1987)
2.0 to 2.4 Micron Spectroscopy of T Tauri Stars. *F. Hamann, M. Simon, & S. T. Ridgway.* 326, 859, 43-A5 (1988)
7500–9300 Å Spectroscopy of MWC 349A. *F. Hamann & M. Simon.* 327, 876, 58-C4 (1988)
Lunar Occultations of *IRAS* Point Sources, 1991–2000. *L. Cassar, W.-P. Chen, & M. Simon.* 69, 651, 10-G7 (1989)
Discovery of Five Pre–Main-Sequence Binaries in Taurus. *W.-P. Chen, M. Simon, A. J. Longmore, R. R. Howell, & J. A. Benson.* 357, 224, 113-G5 (1990)
Subarcsecond Resolution Observations of the Central Parsec of the Galaxy at 2.2 Microns. *M. Simon, W.-P. Chen, W. J. Forrest, J. D. Garnett, A. J. Longmore, T. Gauer, & R. I. Dixon.* 360, 95, 146-C1 (1990)
SIMON, MANFRED. Antiproton Production of Propagating Cosmic Rays under Distributed Reacceleration. *Manfred Simon, U. Heinbach, & Ch. Koch.* 320, 699, 117-D6 (1987)
SIMON, NORMAN R. Hydrodynamic Models of RR*ab* Variables: Comparison of Observed and Theoretical Light Curves. *Norman R. Simon & Toshiki Ikawa.* 304, 249, 56-F1 (1986)
On the Short-Period Type II Cepheid Field Stars. *Norman R. Simon.* 311, 305, 149-D10 (1986)
On Metallicity and RR Lyrae Light Curves. *Norman R. Simon.* 328, 747, 71-C5 (1988)
On the Mass and Luminosities of RR Lyrae Stars. *Norman R. Simon.* 343, L17, 125-C10 (1989)
On ω Centauri and Its RR*c* Stars. *Norman R. Simon.* 360, 119, 146-E3 (1990)
SIMON, R. S. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)
92 Centimeter VLBI Structure of the Elliptical Galaxy MCG 5-4-18. *J. M. Wrobel & R. S. Simon.* 309, 593, 127-F6 (1986)
Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)
1928+738: A Superluminal Source with Large-Scale Structure. *K. J. Johnston, R. S. Simon, A. Eckart, P. Biermann, C. Schalinski, A. Witzel, & R. G. Strom.* 313, L85, 27-D11 (1987)
92 Centimeter VLBI Structure of the Elliptical Galaxy MCG 5-4-18: Erratum. *J. M. Wrobel & R. S. Simon.* 316, 858, 61-D14 (1987) (Orig. paper in 309, 593, 127-F6 (1986))
Superluminal Motion toward a Stationary Knot in the Radio Core of the Quasar 3C 395. *R. S. Simon, J. Hall, K. J. Johnston, J. H. Spencer, J. A. Waak, & R. L. Mutel.* 326, L5, 38-A8 (1988)
Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)
VLBI and MERLIN Observations of 3C 120 at 1.7 GHz: Superluminal Motions beyond 0".05. *J. M. Benson, R. C. Walker, S. C. Unwin, T. W. B. Muxlow, P. N. Wilkinson, R. S. Booth, G. Pilbratt, & R. S. Simon.* 334, 560, 162-D9 (1988)
Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)
Images of Four Compact Steep-Spectrum Quasars with a Resolution of 20 Milliarcseconds at 329.1 MHz. *R. S. Simon, A. C. S. Readhead, A. T. Moffet, P. N. Wilkinson, R. Booth, B. Allen, & B. F. Burke.* 354, 140, 75-F8 (1990)
Apparent Orbit of the Spectroscopic Binary β Arietis with the Mark III Stellar Interferometer. *X. P. Pan, M. Shao, M. M. Colavita, D. Mozurkewich, R. S. Simon, & K. J. Johnston.* 356, 641, 108-B11 (1990)
SIMON, T. Epsilon Aurigae: Polarization, Light Curves, and Geometry of the 1982–1984 Eclipse. *J. C. Kemp, G. D. Henson, D. J. Kraus, I. S. Beardsley, L. C. Carroll, T. B. Ake, T. Simon, & G. W. Collins.* 300, L11, 7-B2 (1986)
SIMON, THEODORE. Comparison of 2.1 and 3.8 Micron Line Profiles of Shocked H_2 in the Orion Molecular Cloud. *T. R. Geballe, S. E. Persson, Theodore Simon, Carol J. Lonsdale, & P. J. McGregor.* 302, 693, 38-C1 (1986)
The T Tauri Radio Sources. II. The Winds of T Tauri. *P. R. Schwartz, Theodore Simon, & Robert Campbell.* 303, 233, 43-F3 (1986)
Short-Term Spectral Variability in AB Aurigae: Clues for Activity in Herbig Ae Stars. I. The Ultraviolet Lines of Mg II and Fe II. *Françoise Praderie, Theodore Simon, Claude Catala, & Ann Merchant Boesgaard.* 303, 311, 44-D13 (1986)
Ultraviolet, Optical, Infrared, and Microwave Observations of HR 5110. *I. R. Little-Marenin, Theodore Simon, T. R. Ayres, N. L. Cohen, P. A. Feldman, J. L. Linsky, S. J. Little, & R. Lyons.* 303, 780, 51-B1 (1986)
Activity in F Stars. *Sidney C. Wolff, Ann Merchant Boesgaard, & Theodore Simon.* 310, 360, 136-A1 (1986)
Two Micron CO Absorption Lines in the Spectrum of Epsilon Aurigae during Eclipse. *Kenneth H. Hinkle & Theodore Simon.* 315, 296, 43-B9 (1987)
The Dependence of Ultraviolet Chromospheric Emission upon Rotation among Late-Type Stars. *Theodore Simon & Francis C. Fekel, Jr.* 316, 434, 54-G2 (1987)
The Evolution of Chromospheric Activity of Cool Giant and Subgiant Stars. *Theodore Simon & Stephen A. Drake.* 346, 303, 169-G11 (1989)
A Survey of the Radio Continuum Emission of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 71, 905, 48-F11 (1989)
IUE Observations of Rapidly Rotating Low-Mass Stars in Young Clusters: The Relation between Chromospheric Activity and Rotation. *Theodore Simon.* 359, L51, 144-C1 (1990)
SIMONETTI, J. H. Rotation Measures of Extragalactic Radio Sources Viewed through the Molecular Clouds Cepheus A and L1551. *J. H. Simonetti & J. M. Cordes.* 303, 659, 49-F8 (1986)
Small-Scale Variations in the Galactic Magnetic Field: Rotation Measure Variations across Extragalactic Radio Sources. *J. H. Simonetti & J. M. Cordes.* 310, 160, 133-F12 (1986)
Flicker of Extragalactic Radio Sources at Two Epochs. *J. H. Simonetti & J. M. Cordes.* 349, 97, 15-B9 (1990)
SIMONNEAU, E. On the Application of Iteration Factors for Temperature Correction in Stellar Atmospheres. *E. Simonneau & L. Crivellari.* 330, 415, 94-G9 (1988)
SIMONS, D. A. Infrared Array Imaging and Spectrophotometry of the Nuclear Region of the "Hot Spot" Galaxy NGC 2903. *D. A. Simons, D. L. DePoy, E. E. Becklin, R. W. Capps, K.-W. Hodapp, & D. N. B. Hall.* 335, 126, 171-F9 (1988)
High-Resolution Infrared Mapping of the Galactic Center: Imaging and Lunar Occultations. *D. A. Simons, K.-W. Hodapp, & E. E. Becklin.* 360, 106, 146-D1 (1990)
The Subarcsecond Infrared Structures at the Centers of Infrared-luminous Galaxies. *S. A. Eales, E. E. Becklin, K.-W. Hodapp, D. A. Simons, & C. G. Wynn-Williams.* 365, 478, 214-A12 (1990)
SIMPSON, J. A. Cosmic-Ray Propagation in the Galaxy and in the Heliosphere: The Path Length Distribution at Low Energy.

M. Garcia-Munoz, J. A. Simpson, T. G. Guzik, J. P. Wefel, & S. H. Margolis. 64, 269, 19-F6 (1987)

SIMPSON, J. P. The Infrared Emission Bands. I. Correlation Studies and the Dependence on C/O Ratio. *Martin Cohen, Lou Allamandola, A. G. G. M. Tielens, Jesse Bregman, J. P. Simpson, Fred C. Witteborn, Diane Wooden, & Dave Rank.* 302, 737, 38-F10 (1986)

The Ionization Structure of the Orion Nebula: Infrared Line Observations and Models. *J. P. Simpson, R. H. Rubin, E. F. Erickson, & M. R. Haas.* 311, 895, 157-E7 (1986)

Determination of N/O from Far-Infrared Line Observations of Galactic H II Regions. *R. H. Rubin, J. P. Simpson, E. F. Erickson, & M. R. Haas.* 327, 377, 51-B4 (1988)

IRAS Low-Resolution Spectral Observations of H II Regions. *J. P. Simpson & R. H. Rubin.* 354, 165, 76-A9 (1990)

SINCELL, MARK W. Electron-Positron Heating and the Eclipsing Millisecond Pulsar PSR 1957+20. *Julian H. Krolik & Mark W. Sincell.* 357, 208, 113-F1 (1990)

SINCLAIR, D. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

SINGAL, ASHOK K. Some Corrections in the Derivation of Synchrotron Radiation Formulae. *Ashok K. Singal.* 310, 733, 142-A5 (1986)

SINGH, BHUPINDER. Gravitational Instability of Thermally Anisotropic Plasma. *Bhupinder Singh & G. L. Kalra.* 304, 6, 54-A11 (1986)

SINGH, HARINDER PAL. On Multimode Pulsations of Degenerate Stellar Models. *M. K. Das, Harinder Pal Singh, & J. N. Tandon.* 346, 289, 169-F7 (1989)

SINGH, JAGDEV. Chromospheric Ca II K-Line Variations in the Sun as a Star over a Solar Cycle. *K. R. Sivaraman, Jagdev Singh, S. P. Bagare, & S. S. Gupta.* 313, 456, 20-A6 (1987)

SINGH, K. P. X-Ray Spectrum of the 2A 0335+096 Cluster of Galaxies. *K. P. Singh, N. J. Westergaard, & H. W. Schnopper.* 308, L51, 120-E14 (1986)

Observations of Soft X-Ray Spectra from a Seyfert 1 and a Narrow Emission-Line Galaxy: Erratum. *K. P. Singh, G. P. Garmire, & J. Nousek.* 312, 484, 6-B10 (1987) (Orig. paper in 297, 633, 108-D10 (1985))

A 9 Month Long Soft X-Ray Survey of the Large Magellanic Cloud. I. X-Ray Map at 1/4 keV. *K. P. Singh, J. A. Nousek, D. N. Burrows, & G. P. Garmire.* 313, 185, 17-A7 (1987)

X-Ray Observations of the Supernova Remnant N103B in the Large Magellanic Cloud. *K. P. Singh, N. J. Westergaard, H. W. Schnopper, & D. J. Helfand.* 322, 80, 138-G3 (1987)

EXOSAT Observations of the Hot Gas in the A1060 Cluster of Galaxies. *K. P. Singh, N. J. Westergaard, & H. W. Schnopper.* 330, 620, 99-C4 (1988)

Cooling Flow in the 2A 0335+096 Cluster of Galaxies. *K. P. Singh, N. J. Westergaard, & H. W. Schnopper.* 331, 672, 116-B13 (1988)

EXOSAT Observations of the Rapidly Rotating Flare Star Gliese 890. *A. R. Rao & K. P. Singh.* 352, 303, 53-E11 (1990)

Ginga Observations of X-Rays from the Seyfert I Galaxy Markarian 509. *K. P. Singh, N. J. Westergaard, H. W. Schnopper, H. Awaki, & Y. Tawara.* 363, 131, 183-F10 (1990)

EXOSAT Observations of the Suspected Flare Star BD +48°1958A. *A. R. Rao, K. P. Singh, & M. N. Vahia.* 365, 332, 210-E1 (1990)

EXOSAT Observations of the Blazar PKS 1510–089. *K. P. Singh, A. R. Rao, & M. N. Vahia.* 365, 455, 213-F1 (1990)

SINGH, R. K. Observation of Low-Energy (30–100 MeV Nucleon^{-1}) Partially Ionized Heavy Ions in Galactic Cosmic Rays. *S. Biswas, N. Durgaprasad, Banashree Mitra, R. K. Singh, A. Dutta, & J. N. Goswami.* 359, L5, 138-A11 (1990)

SINNIS, C. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

SION, E. M. Ultraviolet Observations of V471 Tauri: Evidence for a Nova-like Outburst? *F. C. Bruhweiler & E. M. Sion.* 304, L21, 61-B8 (1986)

EXOSAT Observations of V471 Tauri: A 9.25 Minute White Dwarf Pulsation and Orbital Phase Dependent X-Ray Dips. *K. A. Jensen, J. H. Swank, R. Petre, E. F. Guinan, E. M. Sion, & H. L. Shipman.* 309, L27, 125-E5 (1986)

Evidence for a Cool Wind from the K2 Dwarf in the Detached Binary V471 Tauri. *D. J. Mullan, E. M. Sion, F. C. Bruhweiler, & K. G. Carpenter.* 339, L33, 58-D1 (1989)

SION, EDWARD M. On the Evolutionary State of Cataclysmic Variable White Dwarfs and Their Recurrence Times. *Edward M. Sion & Sumner G. Starrfield.* 303, 130, 42-D7 (1986)

CBS 78: A Second Extremely Rare DBZ Degenerate Star with Accreted Calcium. *Edward M. Sion, Harry L. Shipman, R. Mark Wagner, James Liebert, & Sumner G. Starrfield.* 308, L67, 120-G2 (1986)

Temperatures for Hot and Pulsating DB White Dwarfs Obtained with the *IUE* Observatory. *James Liebert, F. Wesemael, C. J. Hansen, G. Fontaine, Harry L. Shipman, Edward M. Sion, D. E. Winget, & Richard F. Green.* 309, 241, 122-E7 (1986)

Further Observations of the Peculiar Hot Helium-rich Degenerate KPD 0005+5106. *Ronald A. Downes, Edward M. Sion, James Liebert, & J. B. Holberg.* 321, 943, 134-G4 (1987)

A Catalog of Spectroscopically Identified White Dwarfs. *George P. McCook & Edward M. Sion.* 65, 603, 37-E2 (1987)

On the Frequency of Helium-rich Degenerates in Wide Binaries. *Edward M. Sion & Terry D. Oswalt.* 326, 249, 35-A1 (1988)

Hot Subluminous Stars and Blue Objects in the Case Low-Dispersion Northern Sky Survey. I. *R. Mark Wagner, Edward M. Sion, James Liebert, & Sumner G. Starrfield.* 328, 213, 64-C8 (1988)

The Detection of Photospheric Calcium in a DBA White Dwarf. *Scott J. Kenyon, Harry L. Shipman, Edward M. Sion, & Per A. Aannestad.* 328, L65, 74-F4 (1988)

Hydrogen and Calcium in DB White Dwarfs: A Case for Interstellar Accretion. *Edward M. Sion, Per A. Aannestad, & Scott J. Kenyon.* 330, L55, 96-G7 (1988)

L151-81A/B: A Unique White Dwarf Binary with DB and DA Components. *Terry D. Oswalt, Paul M. Hintzen, James W. Liebert, & Edward M. Sion.* 333, L87, 152-F5 (1988)

Discovery of a Cool Expanding Shell at −1200 Kilometers per Second around V471 Tauri. *Edward M. Sion, Fred C. Bruhweiler, Dermott Mullan, & Ken Carpenter.* 341, L17, 91-B9 (1989)

Three Very Cool Degenerate Stars in Luyten Common Proper-Motion Binaries: Implications for the Age of the Galactic Disk. *Paul Hintzen, Terry D. Oswalt, James Liebert, & Edward M. Sion.* 346, 454, 171-F8 (1989)

An Atlas of Optical Spectra of DZ White Dwarfs and Related Objects. *Edward M. Sion, Scott J. Kenyon, & Per A. Aannestad.* 72, 707, 12-E5 (1990)

Abundances in the Hot DZ Star CBS 127: How Efficient Is Hydrogen Screening? *Edward M. Sion, Gordon L. Hammond, R. Mark Wagner, Sumner G. Starrfield, & James Liebert.* 362, 691, 179-C11 (1990)

The Discovery of Strong Neutral Atomic Carbon Absorption Lines in the Spectrum of the DAQZ5 White Dwarf in the Ultra–Short-Period Dwarf Nova WZ Sagittae during Quiescence. *Edward M. Sion, Henry J. Leckenby, & Paula Szkody.* 364, L41, 205-D11 (1990)

SIRONI, G. The Temperature of the Diffuse Background Radiation at 12 Centimeter Wavelength. *G. Sironi & G. Bonelli.* 311, 418, 150-E13 (1986)

The Absolute Temperature of the Sky and the Temperature of the Cosmic Background Radiation at 600 MHz. *G. Sironi, M. Limon, G. Marcellino, G. Bonelli, M. Bersanelli, G. Conti, & K. Reif.* 357, 301, 116-C11 (1990)

SISCOE, G. L. Centrifugal Field Line Breaking: An Upper Limit to Io Mass Injection. *T. S. Huang & G. L. Siscoe.* 312, 475, 6-B1 (1987)

Corotation Lag Limit on Mass-Loss Rate from Io. *T. S. Huang & G. L. Siscoe.* 319, 1003, 106-A1 (1987)

SISK, C. Observations of G29–38 at 10 Microns. *C. M. Telesco, M. Joy, & C. Sisk.* 358, L17, 127-C1 (1990)

SISKIND, LISA. Hydroxyl Emission in Translucent Molecular Clouds. *Loris Magnani & Lisa Siskind.* 359, 355, 140-D8 (1990)

SITKO, MICHAEL L. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

Infrared Polarimetry of Radio-quiet Quasars. *Michael L. Sitko.* 328, 170, 63-G7 (1988)

Multifrequency Observations of the Optically Active Radio-quiet Quasar GQ Comae. I. Ultraviolet Continuum and Line Variability. *Michael L. Sitko.* 72, 777, 16-A9 (1990)

SIVARAMAN, K. R. Chromospheric Ca II K-Line Variations in the Sun as a Star over a Solar Cycle. *K. R. Sivaraman, Jagdev Singh, S. P. Bagare, & S. S. Gupta.* 313, 456, 20-A6 (1987)

SKELTON, R. T. $^{26}Mg(p,n)^{26}Al$ Cross Section Measurements: Erratum. *R. T. Skelton, R. W. Kavanagh, & D. G. Sargood.* 308, 485, 113-D2 (1986) (Orig. paper in 0, 404, 92-C14 (1983))

SKIFF, BRIAN A. The Activity, Variability, and Rotation of Lower Main-Sequence Members of the Coma Star Cluster. *Richard R. Radick, Brian A. Skiff, & G. W. Lockwood.* 353, 524, 70-D12 (1990)

SKILLMAN, E. D. 1E 1415.6+2557: An X-Ray–Selected BL Lacertae Object in a Luminous Galaxy. *J. P. Halpern, C. D. Impey, G. D. Bothun, S. Tapia, E. D. Skillman, A. S. Wilson, & E. J. A. Meurs.* 302, 711, 38-D5 (1986)

SKILLMAN, EVAN D. Oxygen Abundances in Nearby Dwarf Irregular Galaxies. *Evan D. Skillman, R. C. Kennicutt, & P. W. Hodge.* 347, 875, 194-C11 (1989)

Empirical Oxygen Abundances and Physical Conditions for Relatively Low Abundance H II Regions. *Evan D. Skillman.* 347, 883, 194-D7 (1989)

SKINNER, STEPHEN L. New Radio Detections of Early-Type Pre–Main-Sequence Stars. *Stephen L. Skinner, Alexander Brown, & Jeffrey L. Linsky.* 357, L39, 121-C11 (1990)

SKINNER, T. E. Neutral Oxygen and Sulfur Densities in the Io Torus. *T. E. Skinner & S. T. Durrance.* 310, 966, 144-E7 (1986)

Detection of Neutral Oxygen and Sulfur Emissions near Io Using *IUE*. *G. E. Ballester, H. W. Moos, P. D. Feldman, D. F. Strobel, M. E. Summers, J.-L. Bertaux, T. E. Skinner, M. C. Festou, & J. H. Lieske.* 319, L33, 100-D1 (1987)

The First UV Spectrum of Triton: *IUE* Observations from 2600 to 3200 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 341, L107, 100-D1 (1989)

The UV Spectrum of Pluto-Charon: *IUE* Observations from 2600 to 3100 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 342, 533, 107-C7 (1989)

SKJERVE, L. J. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

SKRUTSKIE, M. Molecular Gas in the Type 1 Seyfert Galaxy NGC 7469: Implications for Nuclear Activity. *T. M. Heckman, S. Beckwith, L. Blitz, M. Skrutskie, & A. S. Wilson.* 305, 157, 68-F2 (1986)

SKRUTSKIE, M. F. Direct Infrared Imaging of VB 8. *M. F. Skrutskie, W. J. Forrest, & M. A. Shure.* 312, L55, 14-C11 (1987)

A Possible Brown Dwarf Companion to Gliese 569. *W. J. Forrest, M. F. Skrutskie, & Mark Shure.* 330, L119, 105-A4 (1988)

Electron Temperatures in the High-Excitation Zones of Planetary Nebulae. *N. Rowlands, J. R. Houck, T. Herter, G. E. Gull, & M. F. Skrutskie.* 341, 901, 96-D1 (1989)

The Infrared Coronal Lines of Recent Novae. *Matthew A. Greenhouse, G. L. Grasdalen, C. E. Woodward, J. Benson, R. D. Gehrz, E. Rosenthal, & M. F. Skrutskie.* 352, 307, 53-F1 (1990)

SKRUTSKIE, MICHAEL F. Correlations of Optical and Infrared Excesses in T Tauri Stars. *Patrick Hartigan, Lee Hartmann, Scott J. Kenyon, Stephen E. Strom, & Michael F. Skrutskie.* 354, L25, 80-C11 (1990)

SKRUTSKIE, MIKE. Observations of Infrared Emission Lines and Radio Continuum Emission from Pre–Main-Sequence Objects. *Neal J. Evans II, Russell M. Levreault, S. Beckwith, & Mike Skrutskie.* 320, 364, 112-A9 (1987)

SKUMANICH, A. Stokes Profile Analysis and Vector Magnetic Fields. III. Extended Temperature Minima of Sunspot Umbrae as Inferred from Stokes Profiles of Mg I λ4571. *B. W. Lites, A. Skumanich, D. E. Rees, G. A. Murphy, & M. Carlsson.* 318, 930, 91-B6 (1987)

Stokes Profile Analysis and Vector Magnetic Fields. I. Inversion of Photospheric Lines. *A. Skumanich & B. W. Lites.* 322, 473, 143-B8 (1987)

The Polarization Properties of Model Sunspots: The Broad-Band Polarization Signature of the Schlüter-Temesvary Representation. *A. Skumanich & B. W. Lites.* 322, 483, 143-C4 (1987)

A Model for the Penetration of Lyman Alpha in the Solar Chromosphere. *M. Faurobert, H. Frisch, & A. Skumanich.* 328, 856, 72-E6 (1988)

Stokes Profile Analysis and Vector Magnetic Fields. IV. Synthesis and Inversion of the Chromospheric Mg I *b* Lines. *B. W. Lites, A. Skumanich, D. E. Rees, & G. A. Murphy.* 330, 493, 95-G1 (1988)

Transfer of Line Radiation in a Magnetic Field. *John Jefferies, Bruce W. Lites, & A. Skumanich.* 343, 920, 130-E8 (1989)

Stokes Profile Analysis and Vector Magnetic Fields. V. The Magnetic Field Structure of Large Sunspots Observed with Stokes II. *B. W. Lites & A. Skumanich.* 348, 747, 11-F11 (1990)

High-Resolution Spectra of Solar Magnetic Features. I. Analysis of Penumbral Fine Structure. *B. W. Lites, G. B. Scharmer, & A. Skumanich.* 355, 329, 91-A1 (1990)

SKUMANICH, ANDREW. Some Evidence on the Evolution of the Flare Mechanism in Dwarf Stars. *Andrew Skumanich.* 309, 858, 130-F3 (1986)

Radiative Transfer Diagnostics: Understanding Multilevel Transfer Calculations. I. Analysis of the Full Statistical Equilibrium Equations. *Andrew Skumanich & Bruce W. Lites.* 310, 419, 136-E4 (1986)

The Solar-Stellar Connection: The Relationship between Flaring Rates, Flare Power, and Quiescent X-Ray Background. *Richard A. Harrison, Gillian Pearce, & Andrew Skumanich.* 332, 1058, 136-B2 (1988)

Fluorescence-induced Chromospheric Hα Emission from the K Dwarf Component of V471 Tauri. I. The 1983 Epoch. *Arthur Young, Andrew Skumanich, & Victoria Paylor.* 334, 397, 159-B1 (1988)

A Study of Excess Hα Emission in Chromospherically Active M Dwarf Stars. *Arthur Young, Andrew Skumanich, John R. Stauffer, Bernard W. Bopp, & Eugene Harlan.* 344, 427, 138-C5 (1989)

High-Latitude Spot and Plage Activity on the Rapidly Rotating M Dwarf Star Gliese 890. *Arthur Young, Andrew Skumanich, Keith B. MacGregor, & Scott Temple.* 349, 608, 22-G3 (1990)

SLAGTER, R. J. High-Frequency Perturbations and Gravitational Collapse in Gravity Theory Coupled with a Higgs Field. *R. J. Slagter & G. G. A. Bäuerle.* 307, 20, 95-B12 (1986)

SLANE, P. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

Anomalous Periodicity in the Very High Energy Gamma-Ray Sources. *P. Slane & W. F. Fry.* 342, 1129, 116-B1 (1989)

SLANE, PATRICK. TeV Gamma-Ray Production in Accreting Black Hole Systems. *Patrick Slane & Sanjay M. Wagh.* 364, 198, 196-E1 (1990)

SLATER, GREGORY L. Impulsive Phase Soft X-Ray Blueshifts at a Loop Footpoint. *Dominic M. Zarro, Gregory L. Slater, & Samuel L. Freeland.* 333, L99, 152-G2 (1988)

SLAVIN, JONATHAN D. Consequences of a Conductive Boundary of the Local Cloud. I. No Dust. *Jonathan D. Slavin.* 346, 718, 176-C8 (1989)

SLEE, O. B. A Low-Energy Jet Emanating from the Galactic Nucleus? *F. Yusef-Zadeh, Mark Morris, O. B. Slee, & G. J. Nelson.* 300, L47, 13-C10 (1986)

Nonthermal Radio Emission from the Galactic Center Arc. *F. Yusef-Zadeh, Mark Morris, O. B. Slee, & G. J. Nelson.* 310, 689, 141-D12 (1986)

Radio Emission from EA Eclipsing Binaries: Evidence for Kilogauss Surface Fields on Both Early-Type and Late-Type Stars. *R. T. Stewart, O. B. Slee, Graeme L. White, E. Budding, D. W. Coates, K. Thompson, & John D. Bunton.* 342, 463, 106-D7 (1989)

SLOAN, GREGORY. Circumstellar Gas Associated with HL Tauri: Evidence for a Remnant Infalling Envelope. *Gary L. Grasdalen, Gregory Sloan, Natalie Stout, Stephen E. Strom, & Alan D. Welty.* 339, L37, 58-D5 (1989)

SLOVAK, MARK H. Observational Studies of Cepheids. V. Radial Velocities of Bright Cepheids. *Thomas G. Barnes III, Thomas J. Moffett, & Mark H. Slovak.* 65, 307, 32-E1 (1987)

Observational Studies of Cepheids. VII. Radial Velocities of Faint Cepheids. *Thomas G. Barnes III, Thomas J. Moffett, & Mark H. Slovak.* 66, 43, 1-E6 (1988)

Contemporaneous Photometry and Radial Velocities of RR Lyrae Stars. *Thomas G. Barnes III, Thomas J. Moffett, Suzanne L. Hawley, Mark H. Slovak, & Marian L. Frueh.* 67, 403, 17-E1 (1988)

SMALE, A. P. A 6 Second Periodic X-Ray Source in Carina. *F. D. Seward, P. A. Charles, & A. P. Smale.* 305, 814, 77-G2 (1986)

SMALLEY, R. E. Long Carbon Chain Molecules in Circumstellar Shells. *H. W. Kroto, J. R. Heath, S. C. O'Brien, R. F. Curl, & R. E. Smalley.* 314, 352, 32-A9 (1987)

SMARR, LARRY. Degenerate Dwarf Binaries as Promising, Detectable Sources of Gravitational Radiation. *Charles R. Evans, Icko Iben, Jr., & Larry Smarr.* 323, 129, 154-E1 (1987)

SMART, D. F. Were Solar Neutrons Observed by Neutron Monitors on 1984 April 25? *D. F. Smart, M. A. Shea, E. O. Flückiger, H. Debrunner, & J. E. Humble.* 73, 269, 21-D5 (1990)

SMETTE, A. New Observations and Gravitational Lens Models of the Cloverleaf Quasar H1413+117. *R. Kayser, J. Surdej, J. J. Condon, K. I. Kellermann, P. Magain, M. Remy, & A. Smette.* 364, 15, 194-C1 (1990)

SMEYERS, P. Asymptotic Approximations for Higher Order Nonradial Oscillations of a Spherically Symmetric Star. *P. Smeyers & M. Tassoul.* 65, 429, 34-B11 (1987)

SMITH, A. X-Ray Spectral Observations of the Crab-like Supernova Remnants G21.5–0.9 and 3C 58. *J. Davelaar, A. Smith, & R. H. Becker.* 300, L59, 13-D10 (1986)

EXOSAT Observations of the Tycho Supernova Remnant. *A. Smith, J. Davelaar, A. Peacock, B. G. Taylor, M. Morini, & N. R. Robba.* 325, 288, 22-C7 (1988)

An *EXOSAT* Observation of CTB 80. *L. Angelini, N. E. White, A. N. Parmar, A. Smith, & M. A. Stevens.* 330, L43, 96-F10 (1988)

EXOSAT Observations of the Cassiopeia A Supernova Remnant. *F. Jensen, A. Smith, J. A. M. Bleeker, P. A. J. de Korte, A. Peacock, & N. E. White.* 331, 949, 119-D4 (1988)

EXOSAT Observations of the Supernova Remnant G109.1–1.0 and the X-Ray Pulsar 1E 2259+586. *M. Morini, N. R. Robba, A. Smith, & M. van der Klis.* 333, 777, 148-G1 (1988)

Non–Equilibrium Ionization Effects in the Supernova Remnant RCW 86. *J. J. Claas, A. Smith, J. S. Kaastra, P. A. J. de Korte, & A. Peacock.* 337, 399, 22-C6 (1989)

EXOSAT Observations of the Kepler Supernova Remnant. *A. Smith, A. Peacock, M. Arnaud, J. Ballet, R. Rothenflug, & R. Rocchia.* 347, 925, 195-A9 (1989)

SMITH, A. G. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

SMITH, ANDREW M. Vacuum Ultraviolet Images of the Large Magellanic Cloud. *Andrew M. Smith, Robert M. Cornett, & Robert S. Hill.* 320, 609, 116-C9 (1987)

Ultraviolet Spectroscopy of the "Jetlike" Condensations of NGC 4151. *F. C. Bruhweiler & Andrew M. Smith.* 327, 664, 56-A1 (1988)

Vacuum Ultraviolet Images of the Large Magellanic Cloud: Erratum. *Andrew M. Smith, Robert H. Cornett, & Robert S. Hill.* 355, 746, 97-G6 (1990) (Orig. paper in 320, 609, 116-C9 (1987))

SMITH, B. F. On the Formation of Galaxies with Flat Rotation Curves. *B. F. Smith & R. H. Miller.* 309, 522, 127-A1 (1986)

Numerical Experiments on the Oscillations of a Rotating, Axisymmetric Galaxy. *R. H. Miller, Peter O. Vandervoort, Daniel E. Welty, & B. F. Smith.* 342, 105, 102-C6 (1989)

SMITH, BARHAM W. Temperature Diagnostic Line Ratios of Fe XVII. *John C. Raymond & Barham W. Smith.* 306, 762, 92-G7 (1986)

SMITH, BEVERLY J. A Study of a Flux-limited Sample of IRAS Galaxies. *Beverly J. Smith, S. G. Kleinmann, J. P. Huchra, & F. J. Low.* 318, 161, 80-F5 (1987)

SMITH, BRUCE F. Dynamical Instabilities in Axisymmetric Stellar Systems. I. Oblate E6 Models. *Harold F. Levison, Martin J. Duncan, & Bruce F. Smith.* 363, 66, 183-A6 (1990)

SMITH, C. The Far-Infrared Polarization of the Orion Nebula. *D. P. Gonatas, G. A. Engargiola, R. H. Hildebrand, S. R. Platt, X. D. Wu, J. A. Davidson, G. Novak, D. K. Aitken, & C. Smith.* 357, 132, 112-F4 (1990)

SMITH, CHARLES W. Cosmic-Ray Pitch-Angle Scattering in Isotropic Turbulence. *John W. Bieber, Charles W. Smith, & William H. Matthaeus.* 334, 470, 160-A6 (1988)

Cosmic-Ray Pitch-Angle Scattering in Isotropic Turbulence. II. Sensitive Dependence on the Dissipation Range Spectrum. *Charles W. Smith, John W. Bieber, & William H. Matthaeus.* 363, 283, 185-E12 (1990)

SMITH, D. Impact Line Linear Polarization as a Diagnostic of 100 keV Proton Acceleration in Solar Flares. *J. C. Hénoux, G. Chambe, D. Smith, D. Tamres, N. Feautrier, M. Rovira, & S. Sahal-Bréchot.* 73, 303, 21-G11 (1990)

SMITH, D. F. Coronal Proton Transport in the Presence of Alfvén Waves and Implications for Impact Line Linear Polarization. *D. F. Smith, G. Chambe, J. C. Hénoux, & D. Tamres.* 358, 674, 132-A1 (1990)

SMITH, DAVID. Ion-Molecule Calculation of the Abundance Ratio of CCD to CCH in Dense Interstellar Clouds. *Eric Herbst, Nigel G. Adams, David Smith, & D. J. DeFrees.* 312, 351, 4-F7 (1987)

On the Synthesis of c-C_3H_2 in Interstellar Clouds. *Nigel G. Adams & David Smith.* 317, L25, 71-B13 (1987)

OH Production in the Dissociative Recombination of H_3O^+, HCO_2^+, and N_2OH^+: Comparison with Theory and Interstellar Implications. *Charles R. Herd, Nigel G. Adams, & David Smith.* 349, 388, 18-F1 (1990)

Is Interstellar Acetone Produced by Ion-Molecule Chemistry? *Eric Herbst, Kevin Giles, & David Smith.* 358, 468, 129-D5 (1990)

SMITH, DEAN F. Heat Transport in Steep Temperature Gradients. I. Small Flaring Solar Loops. *Dean F. Smith.* 302, 836, 39-G4 (1986)

Acceleration, Storage, and Release of Solar Flare Protons. *Dean F. Smith & Stephen H. Brecht.* 306, 317, 84-G4 (1986)

Acceleration, Storage, and Release of Solar Flare Protons: Erratum. *Dean F. Smith & Stephen H. Brecht.* 309, 892, 131-A10 (1986) (Orig. paper in 306, 317, 84-G4 (1986))

Evidence for Two Hard X-Ray Components in Double Power-Law Fits to the 1980 June 7 Flare. *Dean F. Smith & Larry E. Orwig.* 327, 466, 52-B8 (1988)

Minimum Mach Number for Impulsive Proton Acceleration by Parallel Collisionless Shock Waves in Solar Flares. *Dean F. Smith & Stephen H. Brecht.* 337, 954, 30-F1 (1989)

Nonlinear Effects in Fast Solar Flare Proton Acceleration by Magnetohydrodynamic Turbulence. *Dean F. Smith & Stephen H. Brecht.* 344, 1004, 146-D6 (1989)

SMITH, ERIC P. On the Nature of QSO Host Galaxies. *Eric P. Smith, T. M. Heckman, G. D. Bothun, W. Romanishin, & B. Balick.* 306, 64, 81-G6 (1986)

Galaxy Collisions and Mergers: The Genesis of Very Powerful Radio Sources? *T. M. Heckman, Eric P. Smith, Stefi A. Baum, W. J. M. van Breugel, G. K. Miley, G. D. Illingworth, G. D. Bothun, & B. Balick.* 311, 526, 153-D2 (1986)

Multicolor Surface Photometry of Powerful Radio Galaxies. I. Observations and Data Reduction. *Eric P. Smith & T. M. Heckman.* 69, 365, 6-D1 (1989)

Multicolor Surface Photometry of Powerful Radio Galaxies. II. Morphology and Stellar Content. *Eric P. Smith & T. M. Heckman.* 341, 658, 93-D9 (1989)

The Local Environments of Low-Redshift Quasars and Powerful Radio Galaxies. *Eric P. Smith & T. M. Heckman.* 348, 38, 1-E2 (1990)

Stellar Dynamics of Powerful Radio Galaxies. *Eric P. Smith, T. M. Heckman, & G. D. Illingworth.* 356, 399, 105-C1 (1990)

SMITH, GRAEME H. The Potential for Supernova-induced Chemical Enrichment of Protoglobular Cluster Clouds. *Michael A. Dopita & Graeme H. Smith.* 304, 283, 57-A12 (1986)

Did Supernova Activity Contribute to Abundance Inhomogeneities within Globular Clusters? *Graeme H. Smith.* 306, 565, 90-F10 (1986)

Mass Functions for Globular Cluster Main Sequences Based on CCD Photometry and Stellar Models. *Robert D. McClure, Don A. VandenBerg, Graeme H. Smith, Gregory G. Fahlman, Harvey B. Richer, James E. Hesser, William E. Harris, Peter B. Stetson, & R. A. Bell.* 307, L49, 107-B10 (1986)

Chemical Enrichment of Halo Protoclusters with Differing Stellar Mass Functions. *Graeme H. Smith & Robert D. McClure.* 316, 206, 52-C3 (1987)

Chemical Enrichment of Halo Protoclusters with Differing Stellar Mass Functions: Erratum. *Graeme H. Smith & Robert D. McClure.* 322, 1074, 151-F12 (1987) (Orig. paper in 316, 206, 52-C3 (1987))

Spectroscopy of the λ7699 K I Line among Globular Cluster Giants. *Bruce Campbell & Graeme H. Smith.* 323, L69, 158-E11 (1987)

CN and CH Variations among Subgiants in the Globular Cluster 47 Tucanae. *Graeme H. Smith, Roger A. Bell, & James E. Hesser.* 341, 190, 86-C5 (1989)

Variations in $^{12}C/^{13}C$ as an Explanation for the 3883 Å CN-Bimodality among 47 Tucanae Subgiants. *Michael M. Briley, Roger A. Bell, Graeme H. Smith, & James E. Hesser.* 341, 800, 95-B6 (1989)

Parkes H I Observations of Southern Globular Clusters: Implications for Stellar Mass Loss. *Graeme H. Smith, Peter R. Wood, D. J. Faulkner, & Alan E. Wright.* 353, 168, 64-C1 (1990)

CN and CH Variations among Giants in the Globular Cluster M2. *Graeme H. Smith & Mario Mateo.* 353, 533, 70-E8 (1990)

Chromospheres of Metal-deficient Field Giants. *A. K. Dupree, L. Hartmann, & Graeme H. Smith.* 353, 623, 71-F1 (1990)

Chromospheres of Two Red Giants in NGC 6752. *A. K. Dupree, G. M. Harper, L. Hartmann, Carole Jordan, A. W. Rodgers, & Graeme H. Smith.* 361, L9, 161-D4 (1990)

SMITH, HARDING E. Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. I. The Lick Survey. *Arthur M. Wolfe, David A. Turnshek, Harding E. Smith, & Ross D. Cohen.* 61, 249, 20-C7 (1986)

The Formation of Disk Galaxies at High Redshift: Observations of Damped Lyman-Alpha Absorption in High-Redshift QSOs. *Harding E. Smith, Ross D. Cohen, & Steven E. Bradley.* 310, 583, 140-B9 (1986)

Spectrophotomery of Six Broad Absorption Line QSOs. *Vesa T. Junkkarinen, E. Margaret Burbidge, & Harding E. Smith.* 317, 460, 69-A7 (1987)

The Nature of the BL Lacertae Object AO 0235+164. *Ross D. Cohen, Harding E. Smith, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 318, 577, 87-C2 (1987)

Emission-Line Variability and the Broad-Line Region of Quasi-stellar Objects. I. Time Scales and Photon Densities. *Wei Zheng, E. Margaret Burbidge, Harding E. Smith, Ross D. Cohen, & Steven E. Bradley.* 322, 164, 139-F5 (1987)

Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. III. Intermediate-Resolution Spectroscopy. *David A. Turnshek, Arthur M. Wolfe, Kenneth M. Lanzetta, Frank H. Briggs, Ross D. Cohen, Craig B. Foltz, Harding E. Smith, & Belinda J. Wilkes.* 344, 567, 141-E7 (1989)

Lyα Emission from Disk Absorption Systems at High Redshift: Star Formation in Young Galaxy Disks. *Harding E. Smith, Ross D. Cohen, Joseph E. Burns, David J. Moore, & Barbara A. Uchida.* 347, 87, 183-B11 (1989)

SMITH, HOWARD A. Luminosities of Sources Associated with Molecular Outflows. *David Mozurkewich, P. R. Schwartz, & Howard A. Smith.* 311, 371, 150-B12 (1986)

Infrared Line Observations of Low-Luminosity Outflow Sources. *Howard A. Smith, J. Fischer, T. R. Geballe, & P. R. Schwartz.* 316, 265, 52-G12 (1987)

Molecular Hydrogen Line Emission in Seyfert Galactic Nuclei. *J. Fischer, T. R. Geballe, Howard A. Smith, M. Simon, & J. W. V. Storey.* 320, 667, 117-B2 (1987)

SMITH, I. A. Particle Acceleration in Accreting Magnetospheres. *J. I. Katz & I. A. Smith.* 326, 733, 41-F3 (1988)

SMITH, IAN W. M. Effects of Quantum Mechanical Tunneling on Rates of Radiative Association. *Ian W. M. Smith.* 347, 282, 185-E5 (1989)

SMITH, J. Dust Reradiation from M43. *J. Smith, D. A. Harper, & R. F. Loewenstein.* 314, 76, 28-G7 (1987)

Near-Infrared Light and the Morphology of Arp 220. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, & R. D. Dietz.* 329, 107, 76-B3 (1988)

Starlight Morphology of the Interacting Galaxy NGC 5195. *J. Smith, R. D. Gehrz, G. L. Grasdalen, John A. Hackwell, R. D. Dietz, & Scott D. Friedman.* 362, 455, 176-B10 (1990)

SMITH, J. B., JR. Nonpotential Magnetic Fields at Sites of Gamma-Ray Flares. *M. J. Hagyard, P. Venkatakrishnan, & J. B. Smith, Jr.* 73, 159, 19-F13 (1990)

SMITH, J. D. A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

SMITH, JESSE B., JR. The Observed Characteristics of Flare Energy Release. I. Magnetic Structure at the Energy Release Site. *Marcos E. Machado, Ronald L. Moore, Ana M. Hernandez, Marta G. Rovira, Mona J. Hagyard, & Jesse B. Smith, Jr.* 326, 425, 37-A1 (1988)

SMITH, KERMIT L. Simultaneous *SMM* Flat Crystal Spectrometer and Very Large Array Observations of Solar Active Regions. *Kenneth R. Lang, Robert F. Willson, Kermit L. Smith, & Keith T. Strong.* 322, 1035, 151-C4 (1987)

Solar Active Region Physical Parameters Inferred from a Thermal Cyclotron Line and Soft X-Ray Spectral Lines. *Kenneth R. Lang, Robert F. Willson, Kermit L. Smith, & Keith T. Strong.* 322, 1044, 151-D3 (1987)

SMITH, LINDSEY F. On the Relationship of W-R Star Numbers and Subclass Distribution to OB Star Numbers and Metallicity in Galaxies. *Lindsey F. Smith.* 327, 128, 48-D2 (1988)
Uniformity of the WC Stars in the Large Magellanic Cloud. *Lindsey F. Smith, Michael M. Shara, & Anthony F. J. Moffat.* 348, 471, 8-D8 (1990)
Distances of Galactic WC Stars from Emission-Line Fluxes and a Quantification of the WC Classification. *Lindsey F. Smith, Michael M. Shara, & Anthony F. J. Moffat.* 358, 229, 124-G12 (1990)
SMITH, M. G. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)
Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)
Multifrequency Observations of Blazars. IV. The Variability of the Radio to Ultraviolet Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, & M. G. Smith.* 340, 150, 69-A2 (1989)
Hα Emission Lines in High-Redshift Quasars. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 342, 666, 110-G3 (1989)
Hα Emission Lines in High-Redshift Quasars: Erratum. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 354, 763, 85-F11 (1990) (Orig. paper in 342, 666, 110-G3 (1989))
SMITH, MALCOLM. Near-Infrared Spectra of Seyfert Nuclei. I. The Reddening Problem. *Martin J. Ward, Thomas Geballe, Malcolm Smith, Richard Wade, & Peredur Williams.* 316, 138, 51-D13 (1987)
SMITH, MYRON. Pulsational Mode Typing in Line-Profile Variables. VII. Commensurable Modes and Nonuniform Period Behavior in Delta Scorpii. *Myron Smith.* 304, 728, 64-A8 (1986)
SMITH, MYRON A. The Nonradial Oscillations of Epsilon Persei. I. A Lawn-Sprinking Shock. *Myron A. Smith.* 307, 213, 97-D3 (1986)
The Nonradial Oscillations of ϵ Persei. II. Nonlinear Characteristics. *Myron A. Smith, Alexander W. Fullerton, & John R. Percy.* 320, 768, 118-B10 (1987)
Transients in the He I λ6678 Line of λ Eri (B2e: Magnetic Quasi-Cycles? *Myron A. Smith.* 71, 357, 39-G1 (1989)
SMITH, P. F. Feasibility of Cosmic Neutrino Detectors Based on Coherent Interaction with Superconductors. *P. F. Smith & J. D. Lewin.* 318, 738, 89-A10 (1987)
SMITH, P. H. Evidence for Periodic Radial Velocity Variations in Arcturus. *P. H. Smith, R. S. McMillan, & W. J. Merline.* 317, L79, 78-C12 (1987)
SMITH, PAUL S. The Optical and Near-Infrared Polarization Properties of the OVV Quasar 3C 345. *Paul S. Smith, Thomas J. Balonek, Paul A. Heckert, & Richard Elston.* 305, 484, 72-D7 (1986)
Optical and Near-Infrared Observations of BL Lacertae Objects and Active Quasars. *Paul S. Smith, Thomas J. Balonek, Richard Elston, & Paul A. Heckert.* 64, 459, 22-G9 (1987)
Evidence for Accretion Disks in Highly Polarized Quasars. *Paul S. Smith, Richard Elston, Graham Berriman, Richard G. Allen, & Thomas J. Balonek.* 326, L39, 46-A9 (1988)
Circular Polarimetry of EXO 033319−2554.2: A New Eclipsing AM Herculis Star. *Graham Berriman & Paul S. Smith.* 329, L97, 89-E11 (1988)
Time-resolved Spectroscopy and Photometry of the Eclipsing AM Herculis Binary EXO 033319−2554.2. *Richard G. Allen, Graham Berriman, Paul S. Smith, & Gary D. Schmidt.* 347, 426, 187-D1 (1989)
SMITH, PETER L. Transition Probability of the Al II 2669 Å Intersystem Line. *B. Carol Johnson, Peter L. Smith, & W. H. Parkinson.* 308, 1013, 120-B7 (1986)
Absolute Oscillator Strengths for 108 Lines of Si I between 163 and 410 Nanometers. *Peter L. Smith, M. C. E. Huber, G. P. Tozzi, H. E. Griesinger, B. L. Cardon, & G. G. Lombardi.* 322, 573, 144-B12 (1987)
SMITH, R. G. 3 Micron Spectroscopy of Comet Halley (1982i). *A. T. Tokunaga, R. G. Smith, T. Nagata, D. L. DePoy, & K. Sellgren.* 310, L45, 138-D3 (1986)
High Spectral Resolution Observations of HD 44179 at 3.2–3.7 Microns. *A. T. Tokunaga, T. Nagata, K. Sellgren, R. G. Smith, T. Onaka, Y. Nakada, A. Sakata, & S. Wada.* 328, 709, 70-G6 (1988)
SMITH, R. M. A Radio and Optical Study of the Interacting System NGC 5090–5091. *R. M. Smith & G. V. Bicknell.* 308, 36, 108-D3 (1986)
SMITH, ROBERT A. Heating of Solar Coronal Loops by Resonant Absorption of Alfvén Waves. *William Grossmann & Robert A. Smith.* 332, 476, 128-C11 (1988)
SMITH, ROBERT G. High-Resolution Spectroscopy of the 3 Micron Emission Features in NGC 7027 and IRAS 21282+5050. *Tetsuya Nagata, Alan T. Tokunaga, K. Sellgren, Robert G. Smith, Takashi Onaka, Yoshikazu Nakada, & Akira Sakata.* 326, 157, 33-G5 (1988)
A Study of H_2O Ice in the 3 Micron Spectrum of OH 231.8+4.2 (OH 0739−14). *Robert G. Smith, K. Sellgren, & Alan T. Tokunaga.* 334, 209, 156-E10 (1988)
Absorption Features in the 3 Micron Spectra of Protostars. *Robert G. Smith, K. Sellgren, & Alan T. Tokunaga.* 344, 413, 138-B2 (1989)
SMITH, T. ED. Is the Universe Filled with Bubbles? *Neta A. Bahcall, Mark J. Henriksen, & T. Ed Smith.* 346, L45, 181-A10 (1989)
SMITH, VERNE V. Lithium in Late-Type Giants. IV. The Subgiant CH Stars. *Verne V. Smith & David L. Lambert.* 303, 226, 43-E10 (1986)
The Chemical Composition of Red Giants. II. Helium Burning and the *s*-Process in the MS and S Stars. *Verne V. Smith & David L. Lambert.* 311, 843, 157-A9 (1986)
Neutron-Exposure Variations in MS and S Stars, and the Implications for *s*-Process Nucleosynthesis. *Verne V. Smith, David L. Lambert, & Andrew McWilliam.* 320, 862, 119-C3 (1987)
Oxygen Isotopic Abundances in Evolved Stars. IV. Five K Giants. *Michael J. Harris, David L. Lambert, & Verne V. Smith.* 325, 768, 29-A5 (1988)
s-Process–enriched Cool Stars with and without Technetium: Clues to Asymptotic Giant Branch and Binary Star Evolution. *Verne V. Smith & David L. Lambert.* 333, 219, 140-E1 (1988)
Synthesis of Lithium and *s*-Process Elements in Small Magellanic Cloud Asymptotic Giant Branch Stars. *Verne V. Smith & David L. Lambert.* 345, L75, 165-B1 (1989)
The Chemical Composition of Red Giants. III. Further CNO Isotopic and *s*-Process Abundances in Thermally Pulsing Asymptotic Giant Branch Stars. *Verne V. Smith & David L. Lambert.* 72, 387, 7-C11 (1990)
On the Occurrence of Enhanced Lithium in Magellanic Cloud Red Giants. *Verne V. Smith & David L. Lambert.* 361, L69, 168-E3 (1990)
SMITH, WM. HAYDEN. D/H for Uranus and Neptune. *Wm. Hayden Smith, W. V. Schempp, J. Simon, & Kevin H. Baines.* 336, 962, 14-D9 (1989)
The D/H Ratio for Jupiter. *Wm. Hayden Smith, W. V. Schempp, & Kevin H. Baines.* 336, 967, 14-E1 (1989)
Limits on the Diurnal Variation of H_2 Quadrupole Features in Neptune. *Wm. Hayden Smith, W. V. Schempp, & Kevin H. Baines.* 343, 450, 123-E13 (1989)
SMOLUCHOWSKI, R. Atoms in Carbon Cages as a Source of Interstellar Diffuse Lines. *J. L. Ballester, P. R. Antoniewicz, & R. Smoluchowski.* 356, 507, 106-E8 (1990)
SMOOT, G. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)
SMOOT, G. F. The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 325, 1, 19-A7 (1988)
The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz: Erratum. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F.*

Smoot, & C. Witebsky. 332, 1092, 136-D8 (1988) (Orig. paper in 325, 1, 19-A7 (1988))

A Measurement of the Cosmic Microwave Background Radiation Temperature at 1.410 GHz. *S. M. Levin, C. Witebsky, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, & G. F. Smoot.* 334, 14, 154-B9 (1988)

Formaldehyde Absorption toward W51. *A. Kogut, G. F. Smoot, C. L. Bennett, & S. J. Petuchowski.* 346, 763, 176-G2 (1989)

In Situ Measurement of the Cosmic Microwave Background Temperature at a Distance of 7.5 Kiloparsecs. *A. Kogut, S. J. Petuchowski, C. L. Bennett, & G. F. Smoot.* 348, L45, 13-A10 (1990)

A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

A Measurement of the Temperature of the Cosmic Microwave Background at a Frequency of 7.5 GHz. *A. Kogut, M. Bensadoun, G. De Amici, S. Levin, G. F. Smoot, & C. Witebsky.* 355, 102, 88-C6 (1990)

SMOOT, GEORGE. New Measurements of the Cosmic Background Radiation Temperature at 3.3 Millimeter Wavelength. *Chris Witebsky, George Smoot, Giovanni De Amici, & Scott D. Friedman.* 310, 145, 133-E10 (1986)

An Analysis of Recent Measurements of the Temperature of the Cosmic Microwave Background Radiation. *George Smoot, Steven M. Levin, Chris Witebsky, Giovanni De Amici, & Yoel Rephaeli.* 331, 653, 116-A6 (1988)

SMOOT, GEORGE F. Long-Wavelength Measurements of the Cosmic Microwave Background Radiation Spectrum. *George F. Smoot, Marc Bensadoun, Marco Bersanelli, Giovanni De Amici, Alan Kogut, Steve Levin, & Chris Witebsky.* 317, L45, 78-A9 (1987)

Measurement of the Intensity of the Cosmic Background Radiation at 3.7 GHz. *Giovanni De Amici, George F. Smoot, Jon Aymon, Marco Bersanelli, Al Kogut, Steven M. Levin, & Chris Witebsky.* 329, 556, 82-F8 (1988)

Measurements of the Cosmic Microwave Background Radiation Temperature at 90 GHz. *Marco Bersanelli, Chris Witebsky, Marc Bensadoun, Giovanni De Amici, Al Kogut, Steven M. Levin, & George F. Smoot.* 339, 632, 59-F7 (1989)

The Temperature of the Cosmic Background Radiation: Results from the 1987 and 1988 Measurements at 3.8 GHz. *Giovanni De Amici, Marc Bensadoun, Marco Bersanelli, Al Kogut, Steve Levin, George F. Smoot, & Chris Witebsky.* 359, 219, 136-G1 (1990)

SMYTH, W. H. A General Model for Io's Neutral Gas Clouds. I. Mathematical Description. *W. H. Smyth & M. R. Combi.* 66, 397, 8-G1 (1988)

A General Model for Io's Neutral Gas Clouds. II. Application to the Sodium Cloud. *W. H. Smyth & M. R. Combi.* 328, 888, 73-A1 (1988)

SMYTH, WILLIAM H. Monte Carlo Particle Trajectory Models for Neutral Cometary Gases. I. Models and Equations. *Michael R. Combi & William H. Smyth.* 327, 1026, 60-B5 (1988)

Monte Carlo Particle Trajectory Models for Neutral Cometary Gases. II. The Spatial Morphology of the Lyman-Alpha Coma. *Michael R. Combi & William H. Smyth.* 327, 1044, 60-C9 (1988)

SNEDEN, CHRISTOPHER. Carbon Isotope Ratios in Giant Stars of the Old Galactic Cluster NGC 7789. *Christopher Sneden & Catherine A. Pilachowski.* 301, 860, 25-B1 (1986)

Carbon Abundances in Halo Dwarfs. *Jocelyn Tomkin, Christopher Sneden, & David L. Lambert.* 302, 415, 32-G1 (1986)

Carbon Isotope Ratios in Field Population II Giant Stars. *Christopher Sneden, Catherine A. Pilachowski, & Don A. VandenBerg.* 311, 826, 156-G5 (1986)

Abundances of Neutron Capture Elements in Population II Stars. *Kalpana Krishnaswamy Gilroy, Christopher Sneden, Catherine A. Pilachowski, & John J. Cowan.* 327, 298, 50-C6 (1988)

Copper and Zinc in Very Metal-poor Stars. *Christopher Sneden & Deborah A. Crocker.* 335, 406, 175-B5 (1988)

Scattering of Sodium D Photons by Neutral Gas in the Planetary Nebula BD +30°3639. *Harriet L. Dinerstein & Christopher Sneden.* 335, L23, 177-C1 (1988)

A Search for Lithium-rich Giant Stars. *Jeffery A. Brown, Christopher Sneden, David L. Lambert, & Edward Dutchover, Jr.* 71, 293, 39-A1 (1989)

SNELL, R. L. Extended Far-Infrared Emission Associated with Mass Outflows from Young Stars: L1551 IRS 5. *S. Edwards, S. E. Strom, R. L. Snell, T. H. Jarrett, C. A. Beichman, & K. M. Strom.* 307, L65, 107-C10 (1986)

CS Observations of L1551: No Rotating Disk. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, & G. L. Grasdalen.* 317, L95, 78-D13 (1987)

High-Resolution Images of the L1551 Bipolar Outflow: Evidence for an Expanding, Accelerated Shell. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, F. P. Schloerb, K. M. Strom, & G. L. Grasdalen.* 319, 742, 103-B6 (1987)

High-Resolution Observations of the B335 and L723 Bipolar Molecular Outflows. *G. H. Moriarty-Schieven & R. L. Snell.* 338, 952, 45-F2 (1989)

The Bipolar Molecular Outflow of V645 Cygni. *A. Schulz, J. H. Black, C. J. Lada, B. L. Ulich, R. N. Martin, R. L. Snell, & N. J. Erickson.* 341, 288, 87-D9 (1989)

CO $J = 2$–1 Observations of the NGC 2071 Molecular Outflow: A Wind-driven Shell. *G. H. Moriarty-Schieven, R. L. Snell, & V. A. Hughes.* 347, 358, 186-E1 (1989)

^{12}CO Emission from the Envelopes of Cool Stars in the Solar Neighborhood. *M. Margulis, D. J. Van Blerkom, R. L. Snell, & S. G. Kleinmann.* 361, 673, 166-D10 (1990)

SNELL, RONALD L. *IRAS* Sources Associated with Shocked Gas Regions in IC 443. *Y.-L. Huang, R. L. Dickman, & Ronald L. Snell.* 302, L63, 40-E12 (1986)

Compact Radio Sources Associated with Molecular Outflows. *Ronald L. Snell & John Bally.* 303, 683, 50-A7 (1986)

Submillimeter Observations of CS in M17. *Ronald L. Snell, Neal R. Erickson, Paul F. Goldsmith, Bobby L. Ulich, Charles J. Lada, Robert N. Martin, & Andreas Schulz.* 304, 780, 64-F4 (1986)

Models of Molecular Cloud Cores. II. Multitransition Study of $C^{34}S$. *Lee G. Mundy, Ronald L. Snell, Neal J. Evans II, Paul F. Goldsmith, & John Bally.* 306, 670, 91-G9 (1986)

A Study of the Morphology and Kinematics of the Dense Gas Associated with Star-forming Regions. *Mark H. Heyer, Ronald L. Snell, Paul F. Goldsmith, Stephen E. Strom, & Karen M. Strom.* 308, 134, 109-E5 (1986)

Carbon Monoxide as an Extragalactic Mass Tracer. *R. L. Dickman, Ronald L. Snell, & F. Peter Schloerb.* 309, 326, 123-D13 (1986)

1300 Micron Continuum Observations of the Sagittarius B2 Molecular Cloud Core. *Paul F. Goldsmith, Ronald L. Snell, & Dariusz C. Lis.* 313, L5, 21-A8 (1987)

Small-Scale Structure and Chemical Differential in the Central Regions of the Sagittarius B2 Molecular Cloud. *Paul F. Goldsmith, Ronald L. Snell, T. Hasegawa, & N. Ukita.* 314, 525, 35-C6 (1987)

Models of Molecular Cloud Cores. III. A Multitransition Study of H_2CO. *Lee G. Mundy, Neal J. Evans II, Ronald L. Snell, & Paul F. Goldsmith.* 318, 392, 83-B11 (1987)

1300 Micron Continuum and $C^{18}O$ Line Mapping of the Giant Molecular Cloud Cores in Orion, W49, and W51. *F. Peter Schloerb, Ronald L. Snell, & P. R. Schwartz.* 319, 426, 97-G5 (1987)

A Survey of IRAS Point Sources in Taurus for High-Velocity Molecular Gas. *Mark H. Heyer, Ronald L. Snell, Paul F. Goldsmith, & Philip C. Myers.* 321, 370, 126-C3 (1987)

The Magnetic Evolution of the Taurus Molecular Clouds. I. Large-Scale Properties. *Mark H. Heyer, Frederick J. Vrba, Ronald L. Snell, F. P. Schloerb, Stephen E. Strom, Paul F. Goldsmith, & Karen M. Strom.* 321, 855, 133-G9 (1987)

Dense Cores in Dark Clouds. V. CO Outflow. *P. C. Myers, M. Heyer, Ronald L. Snell, & P. F. Goldsmith.* 324, 907, 13-D9 (1988)

1.4 Millimeter H_2CO Observations of NGC 2071. *J. A. Tauber, Paul F. Goldsmith, & Ronald L. Snell.* 325, 846, 29-G3 (1988)

Molecular Outflows Associated with Bright Far-Infrared Sources. *Ronald L. Snell, Y.-L. Huang, Robert L. Dickman, & M. J. Claussen.* 325, 853, 29-G11 (1988)

High-Resolution Images of the L1551 Molecular Outflow. II. Structure and Kinematics. *G. H. Moriarty-Schieven & Ronald L. Snell.* 332, 364, 127-B5 (1988)

Molecular Outflows in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, & Ronald L. Snell.* 333, 316, 141-E4 (1988)

Identification of RNO 43 and B335 as Two Highly Collimated Bipolar Flows Oriented Nearly in the Plane of the Sky. *Sylvie Cabrit, Paul F. Goldsmith, & Ronald L. Snell.* 334, 196, 156-D9 (1988)

1300 Micron Continuum and $C^{18}O$ Line Mapping of Giant Molecular Cloud Cores. II. W3, NGC 2264, NGC 6334I, Rho Ophiuchi, and S140. *P. R. Schwartz, Ronald L. Snell, & F. Peter Schloerb.* 336, 519, 7-F1 (1989)

CO in Optically Selected Starburst Galaxies. *James M. Jackson, Ronald L. Snell, Paul T. P. Ho, & Alan H. Barrett.* 337, 680, 27-D10 (1989)

Comparison of the Far-Infrared and Carbon Monoxide Emission in Heiles' Cloud 2 and B18. *Ronald L. Snell, Mark H. Heyer, & F. Peter Schloerb.* 337, 739, 28-C1 (1989)

Shock Chemistry in the Molecular Clouds Associated with SNR IC 443. *L. M. Ziurys, Ronald L. Snell, & R. L. Dickman.* 341, 857, 95-G1 (1989)

Very High Velocity Emission from Molecular Outflows. *Michael Margulis & Ronald L. Snell.* 343, 779, 129-A1 (1989)

A CO and Far-Infrared Study of the S254–S258 Region. *Mark H. Heyer, Ronald L. Snell, James Morgan, & F. Peter Schloerb.* 346, 220, 168-G8 (1989)

Molecular Outflows Associated with a Flux-limited Sample of Bright Far-Infrared Sources. *Ronald L. Snell, Robert L. Dickman, & Y.-L. Huang.* 352, 139, 51-F9 (1990)

Analysis of ^{12}CO and ^{13}CO Emission in a 3 Square Degree Region of the Galactic Plane between $l = 23°$ and 25°. *Youngung Lee, Ronald L. Snell, & Robert L. Dickman.* 355, 536, 95-B4 (1990)

Molecular Clouds Associated with Luminous Far-Infrared Sources in the Outer Galaxy. *John M. Carpenter, Ronald L. Snell, & F. Peter Schloerb.* 362, 147, 171-A1 (1990)

Radio Continuum Emission from Young Stellar Objects in L1641. *James A. Morgan, Ronald L. Snell, & Karen M. Strom.* 362, 274, 172-E9 (1990)

SNEYD, A. D. A Dynamic Relaxation Technique for Determining the Structure and Stability of Coronal Magnetic Fields. *I. J. D. Craig & A. D. Sneyd.* 311, 451, 151-A4 (1986)

General Methods for Determining the Linear Stability of Coronal Magnetic Fields. *I. J. D. Craig, A. N. McClymont, & A. D. Sneyd.* 335, 441, 175-E7 (1988)

Nonlinear Development of the Kink Instability in Coronal Flux Tubes. *I. J. D. Craig & A. D. Sneyd.* 357, 653, 120-F5 (1990)

Sheared Coronal Arcades: An Evaluation of Recent Studies. *I. J. D. Craig, G. J. Rickard, & A. D. Sneyd.* 365, L35, 212-D6 (1990)

SNIJDERS, M. A. J. New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)

Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)

A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V. Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)

SNODGRASS, HERSCHEL B. Spectroscopic Evidence for a Moving Pattern of Azimuthal Rolls on the Sun. *Herschel B. Snodgrass.* 316, L91, 62-D8 (1987)

Rotation of Doppler Features in the Solar Photosphere. *Herschel B. Snodgrass & Roger K. Ulrich.* 351, 309, 42-A1 (1990)

SNOW, T. P. Highly Ionized Stellar Winds in Be Stars: The Evidence for Aspect Dependence. *C. A. Grady, K. S. Bjorkman, & T. P. Snow.* 320, 376, 112-B8 (1987)

Highly Ionized Stellar Winds in Be Stars. II. Winds in B6–B9.5e Stars. *C. A. Grady, K. S. Bjorkman, T. P. Snow, George Sonneborn, Steven N. Shore, & Paul K. Barker.* 339, 403, 55-A8 (1989)

Interstellar Absorption along the Line of Sight to σ Scorpii Using *Copernicus* Observations. *M. M. Allen, T. P. Snow, & E. B. Jenkins.* 355, 130, 88-E9 (1990)

Interstellar Absorption along the Line of Sight to σ Scorpii Using *Copernicus* Observations: Erratum. *M. M. Allen, T. P. Snow, & E. B. Jenkins.* 364, 335, 198-B12 (1990) (Orig. paper in 355, 130, 88-E9 (1990))

SNOW, THEODORE P. Observations of Neutral Atoms in the Rho Ophiuchi Cloud. *Theodore P. Snow, Charles L. Joseph, & David M. Meyer.* 303, 433, 45-G5 (1986)

CCD Observations of Diffuse Interstellar Bands in Reflection Nebulae. *Karl Josafatsson & Theodore P. Snow.* 319, 436, 98-A1 (1987)

High-Resolution Ultraviolet Observations of Interstellar Lines toward ζ Persei Observed with the Balloon-borne Ultraviolet Spectrometer. *Theodore P. Snow, H. J. G. L. M. Lamers, & Charles L. Joseph.* 321, 952, 135-A1 (1987)

Fast Variations in the Ultraviolet Resonance Lines of α Camelopardalis (O9.5 Ia): Evidence for Blobs in the Wind. *Henny J. G. L. M. Lamers, Theodore P. Snow, Cornelis de Jager, & A. Langerwerf.* 325, 342, 23-A2 (1988)

High-Resolution Sounding Rocket Observations of Interstellar H_2 Lines toward δ Scorpii. *Theodore P. Snow, William E. McClintock, & Stephen A. Voels.* 325, 402, 23-E9 (1988)

A New Search for Interstellar C_3. *Theodore P. Snow, C. Gregory Seab, & Charles L. Joseph.* 335, 185, 172-E1 (1988)

Interstellar Gas and Large Grains toward HD 38087. *Theodore P. Snow & Adolf Witt.* 342, 295, 104-E3 (1989)

On the Size Distribution of Newly Formed Grains in Red Supergiant Atmospheres. *C. Gregory Seab & Theodore P. Snow.* 347, 479, 188-A3 (1989)

Far-Ultraviolet Spectrophotometry of Spica. *Timothy A. Cook, Webster Cash, & Theodore P. Snow.* 347, L81, 199-D8 (1989)

Far-Ultraviolet Extinction Determined from *Voyager* Data. *Theodore P. Snow, M. M. Allen, & R. S. Polidan.* 359, L23, 138-C1 (1990)

SNOW, THEODORE P., JR. Interstellar Abundances in Dense, Moderately Reddened Lines of Sight. I. Observational Evidence for Density-dependent Depletion. *Charles L. Joseph, Theodore P. Snow, Jr., C. Gregory Seab, & Richard M. Crutcher.* 309, 771, 129-F6 (1986)

Extinction and Abundance Properties of Alpha Scorpii Circumstellar Grains. *Theodore P. Snow, Jr., Richard H. Buss, Jr., D. P. Gilra, & J. P. Swings.* 321, 921, 134-E10 (1987)

Hot Components and Circumstellar Grains in M Supergiant Syncretic Binaries. *Richard H. Buss, Jr., & Theodore P. Snow, Jr.* 335, 331, 174-C3 (1988)

Predicting Peculiar Interstellar Extinction from Gaseous Abundances. *Charles L. Joseph, Theodore P. Snow, Jr., & C. Gregory Seab.* 340, 314, 71-A1 (1989)

Predicting Peculiar Interstellar Extinction from Gaseous Abundances: Erratum. *Charles L. Joseph, Theodore P. Snow, Jr., & C. Gregory Seab.* 347, 561, 188-G12 (1989) (Orig. paper in 340, 314, 71-A1 (1989))

Grain Ultraviolet Extinction Properties of Recently Discovered Post–Asymptotic Giant Branch Stars. *Richard H. Buss, Jr., Henny J. G. L. M. Lamers, & Theodore P. Snow, Jr.* 347, 977, 195-F3 (1989)

SNOWDEN, S. L. Observations of the Soft X-Ray Diffuse Background at 0.1 keV. *J. J. Bloch, K. Jahoda, M. Juda, D. McCammon, W. T. Sanders, & S. L. Snowden.* 308, L59, 120-F8 (1986)

A Model for the Distribution of Material Generating the Soft X-Ray Background. *S. L. Snowden, D. P. Cox, D. McCammon, & W. T. Sanders.* 354, 211, 76-E7 (1990)

Contributions of Late-Type Dwarf Stars to the Soft X-Ray Diffuse Background. *J. H. M. M. Schmitt & S. L. Snowden.* 361, 207, 159-E1 (1990)

A Color Gradient in the Soft X-Ray Diffuse Background. *S. L. Snowden, J. H. M. M. Schmitt, & B. C. Edwards.* 364, 118, 195-D11 (1990)

SNOWDEN-IFFT, D. P. A Search for Charged Massive Particles in *IMP 8* Data. *D. P. Snowden-Ifft, S. W. Barwick, & P. B. Price.* 364, L25, 205-C1 (1990)

SNYDER, L. E. Interstellar HCO: Detection of the Missing 3 Millimeter Quartet. *M. S. Schenewerk, L. E. Snyder, & Åke Hjalmarson.* 303, L71, 53-E6 (1986)

High-Excitation SiO Masers in Evolved Stars. *P. R. Jewell, Dale F. Dickinson, L. E. Snyder, & D. P. Clemens.* 323, 749, 163-A1 (1987)

HCO Emission from H II–Molecular Cloud Interface Regions. *M. S. Schenewerk, L. E. Snyder, J. M. Hollis, P. R. Jewell, & L. M. Ziurys.* 328, 785, 71-F1 (1988)

Masers and Molecules near the Unusual Formaldehyde Maser NGC 7538 IRS 1. *Preethi Pratap, Wolfgang Batrla, & L. E. Snyder.* 341, 832, 95-E1 (1989)

Millimeter- and Submillimeter-Wave Surveys of Orion A Emission Lines in the Ranges 200.7–202.3, 203.7–205.3, and 330–360 GHz. *P. R. Jewell, J. M. Hollis, F. J. Lovas, & L. E. Snyder.* 70, 833, 31-D1 (1989)

High-Resolution Molecular Observations of NGC 7538 IRS 1. *P. Pratap, W. Batrla, & L. E. Snyder.* 351, 530, 46-F5 (1990)

SNYDER, LEWIS E. The Brightness Distribution of OH around Comet Halley. *Imke de Pater, Patrick Palmer, & Lewis E. Snyder.* 304, L33, 61-C6 (1986)

Interferometric Observations of the 1–0 Transition of HCO^+ toward NGC 7538 IRS 1. *Wolfgang Batrla, Preethi Pratap, & Lewis E. Snyder.* 330, L67, 97-A6 (1988)

SNYDER, W. A. *Spartan 1* X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer Regions of the Cluster. *M. P. Ulmer, R. G. Cruddace, E. E. Fenimore, G. G. Fritz, & W. A. Snyder.* 319, 118, 94-C11 (1987)

Spartan 1 X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer Regions of the Cluster: Erratum. *M. P. Ulmer, R. G. Cruddace, E. E. Fenimore, G. G. Fritz, & W. A. Snyder.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 118, 94-C11 (1987))

X-Ray Observations of the Galactic Center by *Spartan 1*. *N. Kawai, E. E. Fenimore, J. Middleditch, R. G. Cruddace, G. G. Fritz, W. A. Snyder, & M. P. Ulmer.* 330, 130, 91-D11 (1988)

Spartan 1 X-Ray Observations of the Perseus Cluster. II. The Distribution of Flux and Hardness Ratio Out to a Radius of 50 Arcminutes. *W. A. Snyder, M. P. Kowalski, R. G. Cruddace, G. G. Fritz, J. Middleditch, E. E. Fenimore, M. P. Ulmer, & S. R. Majewski.* 365, 460, 213-F8 (1990)

SOARES, I. DAMIAO. Magnetohydrodynamic Cosmologies with a Bertotti-Robinson–like Limit. *R. Portugal & I. Damiao Soares.* 316, 483, 57-C9 (1987)

SOBEL, H. W. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

SOCKER, D. Plasma Motions in an Emerging Flux Region. *G. E. Brueckner, J.-D. F. Bartoe, J. W. Cook, K. P. Dere, D. Socker, H. Kurokawa, & M. McCabe.* 335, 986, 183-E2 (1988)

SOCKER, D. G. Gas Flows in the Transition Region above Sunspots. *O. Kjeldseth-Moe, N. Brynildsen, P. Brekke, O. Engvold, P. Maltby, J.-D. F. Bartoe, G. E. Brueckner, J. W. Cook, K. P. Dere, & D. G. Socker.* 334, 1066, 168-C6 (1988)

SODERBLOM, DAVID R. Determining the Temperatures of Solar-Type Stars: Do Star Spots Produce Color Anomalies? *David R. Soderblom.* 342, 823, 112-E10 (1989)

Modeling Epsilon Eridani and Its Oscillations. *David R. Soderblom & Werner Däppen.* 342, 945, 114-A6 (1989)

SODROSKI, T. J. Large-Scale Galactic Dust Morphology and Physical Conditions from *IRAS* Observations. *T. J. Sodroski, E. Dwek, M. G. Hauser, & F. J. Kerr.* 322, 101, 139-A10 (1987)

Dust Energetics in the Gas Phases of the Interstellar Medium: The Origin of the Galactic Large-Scale Far-Infrared Emission Observed by *IRAS*. *T. J. Sodroski, E. Dwek, M. G. Hauser, & F. J. Kerr.* 336, 762, 11-G2 (1989)

SOFIA, S. Turbulent Compressible Convection in a Deep Atmosphere. III. Tests on the Validity and Limitation of the Numerical Approach. *Kwing L. Chan & S. Sofia.* 307, 222, 97-D12 (1986)

Turbulent Compressible Convection in a Deep Atmosphere. IV. Results of Three-dimensional Computations. *Kwing L. Chan & S. Sofia.* 336, 1022, 15-C1 (1989)

Evolutionary Models of the Rotating Sun. *M. H. Pinsonneault, Steven D. Kawaler, S. Sofia, & P. Demarque.* 338, 424, 38-B11 (1989)

SOFIA, SABATINO. Deep *Einstein* X-Ray Imagery of the Small Magellanic Cloud. *Frederick C. Bruhweiler, Daniel A. Klinglesmith III, Theodore R. Gull, & Sabatino Sofia.* 317, 152, 65-E11 (1987)

A Map-based Determination of the Nature of Beta Delphini. *George Gatewood, Michael Castelaz, Timothy Persinger, John Stein, Pierre Demarque, Sabatino Sofia, & Bruce Stephenson.* 342, 1085, 115-E7 (1989)

SOFIA, ULYSSES J. The Unusual Ultraviolet Variability of the QSO 3C 232. *Frederick C. Bruhweiler, Minas Kafatos, & Ulysses J. Sofia.* 303, L31, 53-B10 (1986)

SOFUE, Y. Flux Densities of Ultracompact H II Regions at 7 Millimeters. *Douglas O. S. Wood, T. Handa, Y. Fukui, E. Churchwell, Y. Sofue, & T. Iwata.* 326, 884, 43-C2 (1988)

SOFUE, YOSHIAKI. A Shocked-Jet Model of the Galactic Center Bridge and the Radio Arc. *Yoshiaki Sofue & Mitsuaki Fujimoto.* 319, L73, 107-D11 (1987)

Observations of Molecular and Atomic Clouds in M31. *Charles J. Lada, Michael Margulis, Yoshiaki Sofue, Naomasa Nakai, & Toshihiro Handa.* 328, 143, 63-E7 (1988)

The Galactic Center Spur—A Jet from the Nucleus? *Yoshiaki Sofue, Wolfgang Reich, & Patricia Reich.* 341, L47, 99-F1 (1989)

CO Emission from the Nucleus of Infrared Galaxy NGC 4418: An Early AGN Phase? *Kimiaki Kawara, Yoshiaki Taniguchi, Naomasa Nakai, & Yoshiaki Sofue.* 365, L1, 212-A5 (1990)

SOIFER, B. T. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

The Luminosity Function and Space Density of the Most Luminous Galaxies in the *IRAS* Survey. *B. T. Soifer, D. B. Sanders, G. Neugebauer, G. E. Danielson, Carol J. Lonsdale, B. F. Madore, & S. E. Persson.* 303, L41, 53-C5 (1986)

IRAS Observations of the Nuclear Bulge of M31. *B. T. Soifer, W. L. Rice, J. R. Mould, F. C. Gillett, M. Rowan-Robinson, & H. J. Habing.* 304, 651, 63-B9 (1986)

Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, J. S. Young, B. T. Soifer, F. P. Schloerb, W. L. Rice, & G. E. Danielson.* 305, L45, 80-B12 (1986)

Discovery of an Infrared-loud Quasar. *C. A. Beichman, B. T. Soifer, G. Helou, T. J. Chester, G. Neugebauer, F. C. Gillett, & F. J. Low.* 308, L1, 113-E11 (1986)

Quasars Measured by the *Infrared Astronomical Satellite*. *G. Neugebauer, G. K. Miley, B. T. Soifer, & P. E. Clegg.* 308, 815, 117-G7 (1986)

X-Ray Spectra of PG Quasars. I. The Continuum from X-Rays to the Infrared. *Martin Elvis, Richard F. Green, Jill Bechtold, Maarten Schmidt, G. Neugebauer, B. T. Soifer, K. Matthews, & G. Fabbiano.* 310, 291, 135-B13 (1986)

Millimeter Interferometry of the Molecular Gas in Arp 220. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, S. L. Scott, & K. Y. Lo.* 311, L47, 160-C1 (1986)

Detection of CO(1 → 0) Emission and Optical Imaging of the Seyfert Galaxy/QSO Markarian 231. *D. B. Sanders, J. S. Young, N. Z. Scoville, B. T. Soifer, & G. E. Danielson.* 312, L5, 7-A8 (1987)
Compact Molecular Gas Structure in the Interacting Galaxy Pair Arp 299 (IC 694–NGC 3690). *A. I. Sargent, D. B. Sanders, N. Z. Scoville, & B. T. Soifer.* 312, L35, 14-B1 (1987)
Continuum Energy Distributions of Quasars in the Palomar-Green Survey. *G. Neugebauer, R. F. Green, K. Matthews, M. Schmidt, B. T. Soifer, & J. Bennett.* 63, 615, 10-A7 (1987)
The Most Luminous Far-Infrared Extragalactic Sources. *M. Harwit, J. R. Houck, B. T. Soifer, & G. G. C. Palumbo.* 315, 28, 40-C6 (1987)
The *IRAS* Bright Galaxy Sample. II. The Sample and Luminosity Function. *B. T. Soifer, D. B. Sanders, B. F. Madore, G. Neugebauer, G. E. Danielson, J. H. Elias, Carol J. Lonsdale, & W. L. Rice.* 320, 238, 110-F7 (1987)
Aperture Synthesis Mapping of Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, A. I. Sargent, & B. T. Soifer.* 324, L55, 18-B13 (1988)
Ultraluminous Infrared Galaxies and the Origin of Quasars. *D. B. Sanders, B. T. Soifer, J. H. Elias, B. F. Madore, K. Matthews, G. Neugebauer, & N. Z. Scoville.* 325, 74, 19-G6 (1988)
Warm Ultraluminous Galaxies in the *IRAS* Survey: The Transition from Galaxy to Quasar? *D. B. Sanders, B. T. Soifer, J. H. Elias, G. Neugebauer, & K. Matthews.* 328, L35, 74-D1 (1988)
A Catalog of *IRAS* Observations of Large Optical Galaxies. *W. Rice, Carol J. Lonsdale, B. T. Soifer, G. Neugebauer, E. L. Koplan, Lawrence A. Lloyd, T. de Jong, & H. J. Habing.* 68, 91, 24-F1 (1988)
Detection of Abundant Molecular Gas in the UV-Excess Quasar Markarian 1014. *D. B. Sanders, N. Z. Scoville, & B. T. Soifer.* 335, L1, 177-A6 (1988)
The Optical/Infrared Counterpart(s) of IRAS 18333–2357. *F. C. Gillett, G. H. Jacoby, R. R. Joyce, J. G. Cohen, G. Neugebauer, B. T. Soifer, T. Nakajima, & K. Matthews.* 338, 862, 44-F1 (1989)
Infrared Images of the Nucleus of M31. *Jeremy Mould, James Graham, K. Matthews, B. T. Soifer, & E. S. Phinney.* 339, L21, 58-C1 (1989)
Aperture Synthesis of CO Emission in Extremely Luminous Infrared Galaxies. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, & C. G. Tinney.* 345, L25, 157-C2 (1989)
Continuum Energy Distributions of Quasars: Shapes and Origins. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 347, 29, 182-D7 (1989)
The Near-Infrared Morphology of Ultraluminous Infrared Galaxies. *David P. Carico, James R. Graham, K. Matthews, T. D. Wilson, B. T. Soifer, G. Neugebauer, & D. B. Sanders.* 349, L39, 24-B1 (1990)
Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)
The Double Nucleus of Arp 220 Unveiled. *James R. Graham, D. P. Carico, K. Matthews, G. Neugebauer, B. T. Soifer, & T. D. Wilson.* 354, L5, 80-A12 (1990)
The Infrared Excess of G29–38: A Brown Dwarf or Dust? *James R. Graham, K. Matthews, G. Neugebauer, & B. T. Soifer.* 357, 216, 113-F10 (1990)
Continuum Energy Distributions of Quasars: Shapes and Origins: Erratum. *D. B. Sanders, E. S. Phinney, G. Neugebauer, B. T. Soifer, & K. Matthews.* 357, 291, 114-F6 (1990) (Orig. paper in 347, 29, 182-D7 (1989))
A 1.49 GHz Atlas of the *IRAS* Bright Galaxy Sample. *J. J. Condon, G. Helou, D. B. Sanders, & B. T. Soifer.* 73, 359, 23-B1 (1990)
The Infrared Structure of M33. *W. Rice, F. Boulanger, F. Viallefond, B. T. Soifer, & W. L. Freedman.* 358, 418, 128-G1 (1990)
Molecular Gas in Intermediate Luminosity *IRAS* Galaxies. *C. G. Tinney, N. Z. Scoville, D. B. Sanders, & B. T. Soifer.* 362, 473, 176-D5 (1990)

SOIFER, TOM. A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

SOKER, NOAM. On the Stream-Disk Interaction in Accreting Compact Objects. *Mario Livio, Noam Soker, & Ruth Dgani.* 305, 267, 69-G11 (1986)
Massive Disk Formation from the Collision of a Main-Sequence Star with a White Dwarf in a Globular Cluster Core. *Noam Soker, Oded Regev, Mario Livio, & Michael M. Shara.* 318, 760, 89-C4 (1987)
Cooling Flows and the Stability of Radio Jets. *Noam Soker & Craig L. Sarazin.* 327, 66, 47-F7 (1988)
Numerical Simulations of the Bending of Narrow-Angle–Tail Radio Jets by Ram Pressure or Pressure Gradients. *Noam Soker, Christopher P. O'Dea, & Craig L. Sarazin.* 327, 627, 55-E4 (1988)
The Common Envelope Phase in the Evolution of Binary Stars. *Mario Livio & Noam Soker.* 329, 764, 85-C1 (1988)
On the Stream-Accretion Disk Interaction: Response to Increased Mass Transfer Rate. *Ruth Dgani, Mario Livio, & Noam Soker.* 336, 350, 5-E5 (1989)
Interacting Winds and the Shaping of Planetary Nebulae. *Noam Soker & Mario Livio.* 339, 268, 53-C8 (1989)
Early Shaping of Asymmetrical Planetary Nebulae. *Noam Soker.* 340, 927, 80-A1 (1989)
Theory of Local Thermal Instability in Spherical Systems. *Steven A. Balbus & Noam Soker.* 341, 611, 92-G1 (1989)
Asymmetric Envelope Expansion of Supernova 1987A. *Roger A. Chevalier & Noam Soker.* 341, 867, 96-A1 (1989)
The Role of Magnetic Fields in Cluster Cooling Flows. *Noam Soker & Craig L. Sarazin.* 348, 73, 2-A1 (1990)
Resonant Excitation of Internal Gravity Waves in Cluster Cooling Flows. *Steven A. Balbus & Noam Soker.* 357, 353, 117-A5 (1990)
Stability Analysis of the Accretion Line. *Noam Soker.* 358, 545, 130-C9 (1990)
Interaction of Planetary Nebulae with the Interstellar Medium. *Kazimierz J. Borkowski, Craig L. Sarazin, & Noam Soker.* 360, 173, 147-B11 (1990)

SOKOLSKY, P. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)
Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)
A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)
Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

SOLENSKY, RICHARD. Finsen 342 and the Hyades Distance Modulus. *Deane M. Peterson & Richard Solensky.* 315, 286, 43-A13 (1987)
51 Tauri and the Hyades Distance Modulus. *Deane M. Peterson & Richard Solensky.* 333, 256, 140-G10 (1988)

SOLF, J. Kinematical and Hydrodynamical Study of the HH 32 Complex. *J. Solf, K.-H. Böhm, & A. C. Raga.* 305, 795, 77-E10 (1986)
Spatially Resolved Spectra of HH 1 and Burnham's Nebula in the Range 3700 Å $\leq \lambda \leq$ 10830 Å. *J. Solf, K.-H. Böhm, & A. Raga.* 334, 229, 156-G5 (1988)
Spatially Resolved Echellette Spectroscopy of Low-Excitation Herbig-Haro Objects and Its Interpretation. *K.-H. Böhm & J. Solf.* 348, 297, 4-F7 (1990)
Optical Jets from the High-Luminosity Young Stars LkHα and AFGL 4029. *T. P. Ray, R. Poetzel, J. Solf, & R. Mundt.* 357, LA5, 121-D3 (1990)

SOLIVELLA, GLADYS. Stellar Multiplicity in the Scorpius-Centaurus Association Tabulated Optical Properties of Graphite and Silicate Grains: Erratum. *Hugo Levato, Stella Malaroda, Nidia Morrell, Gladys Solivella, & B. T. Draine.* 64, 487, 23-B8 (1987)

Spectroscopic Binaries in the Open Cluster Collinder 228. *Hugo Levato, Stella Malaroda, Beatriz Garcia, Nidia Morrell, & Gladys Solivella.* 72, 323, 6-E1 (1990)

SOLOMON, P. M. Massachusetts–Stony Brook Galactic Plane CO Survey. I. (*b,V*) Maps of the First Galactic Quadrant. *D. B. Sanders, D. P. Clemens, N. Z. Scoville, & P. M. Solomon.* 60, 1, 1-A3 (1986)

Massachusetts–Stony Brook Galactic Plane CO Survey. II. (*l,V*) Maps of the First Galactic Quadrant. *D. P. Clemens, D. B. Sanders, N. Z. Scoville, & P. M. Solomon.* 60, 297, 4-A5 (1986)

The Massachusetts–Stony Brook Galactic Plane CO Survey: Statistical Clustering Properties of Molecular Cloud Cores. *A. R. Rivolo, P. M. Solomon, & D. B. Sanders.* 301, L19, 20-C5 (1986)

Mass, Luminosity, and Line Width Relations of Galactic Molecular Clouds. *P. M. Solomon, A. R. Rivolo, J. Barrett, & A. Yahil.* 319, 730, 103-A8 (1987)

The Extraordinary CO Luminosity of the Far-Infrared Galaxy VII Zw 31: A Possible Proto-Galactic Disk? *Leslie J. Sage & P. M. Solomon.* 321, L103, 137-A9 (1987)

Star Formation Rates and the Far-Infrared Luminosity of Galactic Molecular Clouds. *T. J. Mooney & P. M. Solomon.* 334, L51, 161-E11 (1988)

Star-Formation Rates, Molecular Clouds, and the Origin of the Far-Infrared Luminosity of Isolated and Interacting Galaxies. *P. M. Solomon & L. J. Sage.* 334, 613, 163-B6 (1988)

A Face-on View of the First Galactic Quadrant in Molecular Clouds. *P. M. Solomon & A. R. Rivolo.* 339, 919, 63-B3 (1989)

Star Formation, Molecular Clouds, and the Origin of Blue Light from Galaxies. *Leslie J. Sage & P. M. Solomon.* 342, L15, 109-B6 (1989)

Dense Molecular Clouds and the Arp 220 Starburst. *P. M. Solomon, Simon J. E. Radford, & D. Downes.* 348, L53, 13-B5 (1990)

Dense Molecular Gas, Star Formation, and the CO to H_2 Conversion Factor in Nearby Galaxies. *Leslie J. Sage, Steven N. Shore, & P. M. Solomon.* 351, 422, 45-C10 (1990)

SOLTAN, ANDRZEJ. A Search for Small-Scale X-Ray Surface Brightness Fluctuations in Clusters of Galaxies. *Andrzej Soltan & Daniel G. Fabricant.* 364, 433, 201-D1 (1990)

SOMMER-LARSEN, JESPER. A Round Dynamical Model of the Metal-weak Stellar Halo. *Henrik Vedel & Jesper Sommer-Larsen.* 359, 104, 135-D1 (1990)

SOMMERS, P. Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

SONEIRA, RAYMOND M. Peculiar Velocity and Geometrical Elongation of Large-Scale Structures. *Neta A. Bahcall, Raymond M. Soneira, & William S. Burgett.* 311, 15, 146-B8 (1986)

SONGAILA, A. Gas in and toward the Magellanic Clouds. *A. Songaila, J. C. Blades, E. M. Hu, & L. L. Cowie.* 303, 198, 43-C6 (1986)

Limits on the Galactic and Cosmic Ionizing Fluxes from Measurements of Hα Emission from the High-Velocity Neutral Hydrogen Clouds. *A. Songaila, W. Bryant, & L. L. Cowie.* 345, L71, 165-A10 (1989)

Galaxy Formation and the Origin of the Ionizing Flux at Large Redshift. *A. Songaila, L. L. Cowie, & S. J. Lilly.* 348, 371, 7-C1 (1990)

High-Resolution Imaging and the H-R Diagram of Galactic Bulge Planetary Nebulae. *M. A. Dopita, J. P. Henry, I. R. Tuohy, B. L. Webster, E. H. Roberts, Y.-I. Byun, L. L. Cowie, & A. Songaila.* 365, 640, 216-B10 (1990)

SONGAILA, ANTOINETTE. The Distance to the High-Velocity Clouds: Mass Infall and Galactic Disk Formation. *Antoinette Songaila, Lennox L. Cowie, & Harold Weaver.* 329, 580, 83-A10 (1988)

SONNEBORN, G. Periodic Photospheric and Chromospheric Modulation in Alpha Orionis (Betelgeuse). *A. K. Dupree, S. L. Baliunas, E. F. Guinan, L. Hartmann, G. E. Nassiopoulos, & G. Sonneborn.* 317, L85, 78-D4 (1987)

The Interstellar Medium toward Supernova 1987A. *A. K. Dupree, R. P. Kirshner, G. E. Nassiopoulos, J. C. Raymond, & G. Sonneborn.* 320, 597, 116-B11 (1987)

Narrow Ultraviolet Emission Lines from SN 1987A: Evidence for CNO Processing in the Progenitor. *C. Fransson, A. Cassatella, R. Gilmozzi, R. P. Kirshner, N. Panagia, G. Sonneborn, & W. Wamsteker.* 336, 429, 6-E1 (1989)

SONNEBORN, GEORGE. Ultraviolet Observations of SN 1987A. *Robert P. Kirshner, George Sonneborn, D. Michael Crenshaw, & George E. Nassiopoulos.* 320, 602, 116-C2 (1987)

The Progenitor of SN 1987A: Spatially Resolved Ultraviolet Spectroscopy of the Supernova Field. *George Sonneborn, Bruce Altner, & Robert P. Kirshner.* 323, L35, 158-C7 (1987)

Recurrent Episodic Mass Loss in a B2e Star: 66 Ophiuchi, 1982–1985. *C. A. Grady, George Sonneborn, Chi-Chao Wu, & H. F. Henrichs.* 65, 673, 39-A2 (1987)

Mass Loss in a B2 IIIe Star: ω Orionis 1978–1984. *George Sonneborn, C. A. Grady, Chi-Chao Wu, Daniel P. Hayes, E. F. Guinan, Paul K. Barker, & H. F. Henrichs.* 325, 784, 29-B8 (1988)

Highly Ionized Stellar Winds in Be Stars. II. Winds in B6–B9.5e Stars. *C. A. Grady, K. S. Bjorkman, T. P. Snow, George Sonneborn, Steven N. Shore, & Paul K. Barker.* 339, 403, 55-A8 (1989)

The Discovery of Magnetically Controlled Circumstellar Matter in the Helium-weak Stars HD 5737 and HD 79158. *Steven N. Shore, Douglas N. Brown, George Sonneborn, John D. Landstreet, & David A. Bohlender.* 348, 242, 4-A5 (1990)

SONNENFROH, DAVID M. Dynamics of the Reaction of C^+ with HCl. *David M. Sonnenfroh & James M. Farrar.* 335, 491, 176-B10 (1988)

SOOD, R. Hard X-Ray Spectrum of Supernova 1987A on Day 407. *P. Ubertini, A. Bazzano, R. Sood, R. Staubert, T. J. Sumner, & G. Frye.* 337, L19, 25-B11 (1989)

SOONG, Y. Temporal Behavior of Hercules X-1: The Long-Term Variability of Its Pulse Profile and the 35 Day X-Ray Intensity Modulation. *Y. Soong, D. E. Gruber, L. E. Peterson, & R. E. Rothschild.* 348, 634, 10-E3 (1990)

Spectral Behavior of Hercules X-1: Its Long-Term Variability and Pulse Phase Spectroscopy. *Y. Soong, D. E. Gruber, L. E. Peterson, & R. E. Rothschild.* 348, 641, 10-E11 (1990)

SOONG, YANG. Two Binary Cycles of GX 301−2. *Richard E. Rothschild & Yang Soong.* 315, 154, 41-F6 (1987)

A Rapid Change of the Hercules X-1 Pulse Profile and High-State Duration. *Yang Soong, Duane E. Gruber, & Richard E. Rothschild.* 319, L77, 107-E3 (1987)

SORKIN, RAFAEL D. Turning Point Method for Axisymmetric Stability of Rotating Relativistic Stars. *John L. Friedman, James R. Ipser, & Rafael D. Sorkin.* 325, 722, 28-D10 (1988)

SORRELL, WILFRED H. Origin and Acceleration of 10^{20} eV Cosmic-Ray Protons. *Wilfred H. Sorrell.* 323, 647, 161-G1 (1987)

Constraints on Astronomical Silicate Dust. *Wilfred H. Sorrell.* 361, 150, 158-G7 (1990)

SOSIN, CRAIG. The Warp of the Galactic Stellar Disk Detected in *IRAS* Source Counts. *S. Djorgovski & Craig Sosin.* 341, L13, 91-B5 (1989)

SOTTILE, JAMES. A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)

SOUP TEAM, THE. On the Relation between Photospheric Flow Fields and the Magnetic Field Distribution on the Solar Surface. *George W. Simon, A. M. Title, K. P. Topka, T. D. Tarbell, R. A. Shine, S. H. Ferguson, H. Zirin, & The SOUP Team.* 327, 964, 59-C1 (1988)

Statistical Properties of Solar Granulation Derived from the SOUP Instrument on *Spacelab 2*. *A. M. Title, T. D. Tarbell, K. P. Topka,*

S. H. Ferguson, R. A. Shine, & The SOUP Team. 336, 475, 7-A10 (1989)

SOUTOUL, A. The Source Charge and Isotopic Abundances of Cosmic Rays with $Z = 9$–16: A Study Using New Fragmentation Cross Sections. *W. R. Webber, A. Soutoul, P. Ferrando, & M. Gupta.* 348, 611, 10-C1 (1990)

SOWELL, J. R. Spectrophotometry of Epsilon Aurigae. *D. T. Thompson, B. L. Lutz, G. W. Lockwood, & J. R. Sowell.* 321, 450, 127-B1 (1987)

SOWELL, JAMES R. Yellow Evolved Stars in Open Clusters. *James R. Sowell.* 64, 241, 19-D5 (1987)

SPADARO, D. Mass Flows and the Ionization State of Coronal Loops. *G. Noci, D. Spadaro, R. A. Zappala, & S. K. Antiochos.* 338, 1131, 47-F1 (1989)

Mass Flows and the Ionization States of Coronal Loops: Erratum. *G. Noci, D. Spadaro, R. A. Zappala, & S. K. Antiochos.* 349, 678, 23-F5 (1990) (Orig. paper in 338, 1131, 47-F1 (1989))

The Effect of Nonequilibrium Ionization on Ultraviolet Line Shifts in the Solar Transition Region. *D. Spadaro, G. Noci, R. A. Zappalà, & S. K. Antiochos.* 355, 342, 91-B5 (1990)

The Effects of Nonequilibrium Ionization on the Radiative Losses of the Solar Corona. *D. Spadaro, R. A. Zappalà, S. K. Antiochos, G. Lanzafame, & G. Noci.* 362, 370, 173-F9 (1990)

SPAMER, E. Radiative Transitions in ^{27}Al and Their Relevance to the ^{26}Al$(p,\gamma)^{27}$Si Reaction under Stellar Conditions. *C. Rangacharyulu, G. Kuechler, A. Richter, & E. Spamer.* 320, 405, 112-D9 (1987)

SPANGLER, S. R. VLBI Angular Broadening Measurements in the Cygnus Region. *A. L. Fey, S. R. Spangler, & R. L. Mutel.* 337, 730, 28-B1 (1989)

SPANGLER, STEVEN R. Interstellar Scattering of Compact Radio Sources near Supernova Remnants. *Steven R. Spangler, Robert L. Mutel, John M. Benson, & James M. Cordes.* 301, 312, 17-C8 (1986)

VLA and Low-Frequency VLBI Observations of the Radio Source 0503+467: Austere Constraints on Interstellar Scattering in Two Media. *Steven R. Spangler, Alan L. Fey, & James M. Cordes.* 322, 909, 149-G3 (1987)

Interstellar Scattering of the Radio Source 2013+370. *Steven R. Spangler & James M. Cordes.* 332, 346, 127-A1 (1988)

On Evidence for Quasi-parallel and Quasi-perpendicular Acceleration in Supernova Remnants. *James A. Leckband, Steven R. Spangler, & Iver H. Cairns.* 338, 963, 45-G1 (1989)

Evidence for an Inner Scale to the Density Turbulence in the Interstellar Medium. *Steven R. Spangler & Carl R. Gwinn.* 353, L29, 67-D1 (1990)

A Comparison of Hα Intensity and Radio Wave Scattering on Eight Low-Latitude Lines of Sight. *Steven R. Spangler & Ronald J. Reynolds.* 361, 116, 158-D11 (1990)

Faraday Rotation Measure Variations in the Cygnus Region and the Spectrum of Interstellar Plasma Turbulence. *T. Joseph Lazio, Steven R. Spangler, & James M. Cordes.* 363, 515, 190-E7 (1990)

SPARKE, LINDA S. Line Variations in Quasars and Seyfert Galaxies. *C. Martin Gaskell & Linda S. Sparke.* 305, 175, 68-G7 (1986)

The Dark Halo of the Polar-Ring Galaxy NGC 4650A. *Penny D. Sackett & Linda S. Sparke.* 361, 408, 163-B11 (1990)

SPARKS, L. Ideal Condensations due to Perpendicular Thermal Conduction in a Sheared Magnetic Field. *G. Van Hoven, L. Sparks, & T. Tachi.* 300, 249, 3-F8 (1986)

Nonlinear Radiative Condensation in a Sheared Magnetic Field. *G. Van Hoven, L. Sparks, & D. D. Schnack.* 317, L91, 78-D9 (1987)

Thermal Instability of a Radiative and Resistive Coronal Plasma. *L. Sparks & G. Van Hoven.* 333, 953, 150-G1 (1988)

The Nonlinear Evolution of Magnetized Solar Filaments. *L. Sparks, G. Van Hoven, & D. D. Schnack.* 353, 297, 66-A1 (1990)

SPARKS, W. B. Imaging Observations of Gas and Dust in NGC 4696 and Implications for Cooling Flow Models. *W. B. Sparks, F. Macchetto, & D. Golombek.* 345, 153, 151-A1 (1989)

Polarization of the Jet of PKS 0521−36. *W. B. Sparks, G. K. Miley, & F. Macchetto.* 361, L41, 168-B6 (1990)

SPARKS, W. M. A Model for the 1987 Outburst of the Recurrent Nova U Scorpii. *S. Starrfield, W. M. Sparks, & G. Shaviv.* 325, L35, 31-C11 (1988)

SPARKS, WARREN M. Hydrodynamic Models for Novae with Ejecta Rich in Oxygen, Neon, and Magnesium. *Sumner Starrfield, Warren M. Sparks, & James W. Truran.* 303, L5, 47-A11 (1986)

Stellar Accretion of Matter Possessing Angular Momentum. *G. Siegfried Kutter & Warren M. Sparks.* 321, 386, 126-D7 (1987)

Nuclear Runaways in a C/O White Dwarf Accreting H-rich Material Possessing Angular Momentum. *Warren M. Sparks & G. Siegfried Kutter.* 321, 394, 126-E1 (1987)

On the Composition Dependence of Thermonuclear Runaway Models for the Recurrent Nova U Scorpii. *James W. Truran, Mario Livio, John Hayes, Sumner Starrfield, & Warren M. Sparks.* 324, 345, 5-A3 (1988)

Modeling the Classical Nova Outburst. I. Exploring the Physics of a New Mechanism. *G. Siegfried Kutter & Warren M. Sparks.* 340, 985, 80-E6 (1989)

SPARKS, WILLIAM B. Polarization and Visual Intensity of the Inner Light Echo around SN 1987A. *William B. Sparks, Francesco Paresce, & Duccio Macchetto.* 347, L65, 199-C2 (1989)

SPEAR, R. H. A Comment on the ^{7}Be$(p,\gamma)^{8}$B Cross Section and the Solar Neutrino Problem. *F. C. Barker & R. H. Spear.* 307, 847, 106-C3 (1986)

SPENCER, J. H. Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)

H_2O Masers in Circumstellar Envelopes. *Adair P. Lane, K. J. Johnston, P. F. Bowers, J. H. Spencer, & P. J. Diamond.* 323, 756, 163-A8 (1987)

Superluminal Motion toward a Stationary Knot in the Radio Core of the Quasar 3C 395. *R. S. Simon, J. Hall, K. J. Johnston, J. H. Spencer, J. A. Waak, & R. L. Mutel.* 326, L5, 38-A8 (1988)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

SPENCER, M. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

SPENCER, R. E. The 1983 September Radio Outburst of Cygnus X-3: Relativistic Expansion at 0.35c. *R. E. Spencer, R. W. Swinney, K. J. Johnston, & R. M. Hjellming.* 309, 694, 128-G7 (1986)

Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

Subluminal Motion and Limb Brightening in the Nuclear Jet of M87. *M. J. Reid, J. A. Biretta, W. Junor, T. W. B. Muxlow, & R. E. Spencer.* 336, 112, 2-D1 (1989)

SPENCER, RALPH E. The Inner Beams of SS 433. *Jonathan D. Romney, Richard T. Schilizzi, István Fejes, & Ralph E. Spencer.* 321, 822, 133-E3 (1987)

SPERGEL, DAVID. Gamma-Ray Bursts from Superconducting Cosmic Strings at Large Redshifts. *Arif Babul, Bohdan Paczyński, & David Spergel.* 316, L49, 62-A9 (1987)

SPERGEL, DAVID N. Solar Models with Energy Transport by Weakly Interacting Particles. *Ronald L. Gilliland, John Faulkner, William H. Press, & David N. Spergel.* 306, 703, 92-C3 (1986)

Choice of Order and Extrapolation Method in Aarseth-Type *N*-Body Algorithms. *William H. Press & David N. Spergel.* 325, 715, 28-D3 (1988)

Weakly Interacting, Massive Particles in Horizontal-Branch Stars. *David N. Spergel & John Faulkner.* 331, L21, 114-B11 (1988)

Magnetic Field Generation during the Cosmological QCD Phase Transition. *Jean M. Quashnock, Abraham Loeb, & David N. Spergel.* 344, L49, 148-B1 (1989)

Is There Structure on the Scale of $300h^{-1}$ Mpc? *Marc Postman, David N. Spergel, Brian Sutin, & Roman Juszkiewicz.* 346, 588, 174-F10 (1989)

Dynamical Evolution of Domain Walls in an Expanding Universe. *William H. Press, Barbara S. Ryden, & David N. Spergel.* 347, 590, 190-E3 (1989)

An Analytical Approach to Gravitational Lensing by an Ensemble of Axisymmetric Lenses. *Man Hoi Lee & David N. Spergel.* 357, 23, 111-D1 (1990)

The Evolution of Networks of Domain Walls and Cosmic Strings. *Barbara S. Ryden, William H. Press, & David N. Spergel.* 357, 293, 116-C1 (1990)

SPICER, D. S. A New Quasi-thermal Trap Model for Solar Flare Hard X-Ray Bursts: An Electrostatic Trap Model. *D. S. Spicer & A. G. Emslie.* 330, 997, 103-E1 (1988)

A Model of the Pre-Sedov Expansion Phase of Supernova Remnant–Ambient Plasma Coupling and X-Ray Emission from SN 1987A. *D. S. Spicer, R. W. Clark, & S. P. Maran.* 356, 549, 107-B4 (1990)

SPILLAR, E. Speckle Observations of the Central Region of NGC 4151. *G. R. Ayers, J. Benson, K. Carels, H. M. Dyck, & E. Spillar.* 360, 471, 152-B9 (1990)

SPILLAR, E. J. Infrared Speckle Observations of the Nucleus of M31. *E. J. Spillar, R. Canterna, K. H. Carels, J. A. Benson, & H. M. Dyck.* 349, L13, 19-B11 (1990)

SPILLAR, EARL. Near-Infrared Images of NGC 1068: Bar-driven Star Formation and the Circumnuclear Composition. *Harley A. Thronson, Jr., Mark Hereld, Steven Majewski, Matthew Greenhouse, Paul Johnson, Earl Spillar, C. E. Woodward, D. A. Harper, & Bernard J. Rauscher.* 343, 158, 120-B3 (1989)

SPILLAR, EARL J. Photometric Redshifts of Galaxies. *Edwin D. Loh & Earl J. Spillar.* 303, 154, 42-F3 (1986)

A Measurement of the Mass Density of the Universe. *Edwin D. Loh & Earl J. Spillar.* 307, L1, 100-A4 (1986)

SPINOGLIO, L. A New Narrow-Line Seyfert 1 Galaxy: IRAS 1652+395. *L. Bassani, M. J. Coe, M. A. Malkan, N. Mandolesi, B. Partridge, & L. Spinoglio.* 344, 726, 143-D2 (1989)

Short Time Scale Variability of the BL Lacertae Object OJ 287 in the Near-Infrared. *D. Lorenzetti, E. Massaro, G. C. Perola, & L. Spinoglio.* 71, 175, 37-B1 (1989)

SPINOGLIO, LUIGI. The 12 Micron Galaxy Sample. I. Luminosity Functions and a New Complete Active Galaxy Sample. *Luigi Spinoglio & Matthew A. Malkan.* 342, 83, 102-A10 (1989)

SPINRAD, HYRON. Extended Lyman-α Emission in 3C 326.1: A 100 Kiloparsec Cloud of Ionized Gas at a Redshift of 1.82. *Patrick J. McCarthy, Hyron Spinrad, S. Djorgovski, Michael A. Strauss, Wil van Breugel, & James Liebert.* 319, L39, 107-B2 (1987)

A Correlation between the Radio and Optical Morphologies of Distant 3 CR Radio Galaxies. *Patrick J. McCarthy, Wil van Breugel, Hyron Spinrad, & S. Djorgovski.* 321, L29, 129-D3 (1987)

Abundances in Comet Halley at the Time of the Spacecraft Encounters. *Susan Wyckoff, Stephen Tegler, Peter A. Wehinger, Hyron Spinrad, & Michael J. S. Belton.* 325, 927, 30-F9 (1988)

Serendipitous Discovery of a Redshift 4.4 QSO. *Patrick J. McCarthy, Mark Dickinson, Alexei V. Filippenko, Hyron Spinrad, & Wil J. M. van Breugel.* 328, L29, 74-C9 (1988)

C_2 in Comet Halley: Evidence for Its Being Third Generation and Resolution of the Vibrational Population Discrepancy. *C. R. O'Dell, Ronald R. Robinson, K. S. Krishna Swamy, Patrick J. McCarthy, & Hyron Spinrad.* 334, 476, 160-B1 (1988)

Extended Lyα Emission Associated with 3C 294. *Patrick J. McCarthy, Hyron Spinrad, Wil van Breugel, James Liebert, Mark Dickinson, S. Djorgovski, & Peter Eisenhardt.* 365, 487, 214-B9 (1990)

SPIRO, M. Testing the Weakly Interacting, Massive Particle Explanation of the Solar Neutrino Puzzle with Conventional Silicon Detectors. *B. Sadoulet, J. Rich, M. Spiro, & D. O. Caldwell.* 324, L75, 18-D8 (1988)

SPITZER, LYMAN, JR. Abundances of Interstellar Atoms from Ultraviolet Absorption Lines. *Edward B. Jenkins, Blair D. Savage, & Lyman Spitzer, Jr.* 301, 355, 17-F11 (1986)

SPLINTER, RANDALL J. The Dipole Oscillations of General Relativistic Neutron Stars. *Lee Lindblom & Randall J. Splinter.* 345, 925, 162-A11 (1989)

The Accuracy of the Relativistic Cowling Approximation. *Lee Lindblom & Randall J. Splinter.* 348, 198, 3-D8 (1990)

Damping Times for Neutron Star Oscillations. *Curt Cutler, Lee Lindblom, & Randall J. Splinter.* 363, 603, 191-F1 (1990)

SPRANGLE, P. Electron Cyclotron Harmonic Wave Acceleration. *H. Karimabadi, C. R. Menyuk, P. Sprangle, & L. Vlahos.* 316, 462, 55-B2 (1987)

SPRANGLE, PHILLIP. Evolution of the Axial Electron Cyclotron Maser Instability, with Applications to Solar Microwave Spikes. *Loukas Vlahos & Phillip Sprangle.* 322, 463, 143-A10 (1987)

SPRUIT, H. C. Stability of Sunspots to Convective Motions. I. Adiabatic Instability. *F. Moreno-Insertis & H. C. Spruit.* 342, 1158, 116-D3 (1989)

The Disrupted Magnetic Braking Hypothesis and the Period Gap of Cataclysmic Variables. *Ronald E. Taam & H. C. Spruit.* 345, 972, 162-E10 (1989)

SRAMEK, R. A. Subluminous, Radio Emitting Type I Supernovae. *N. Panagia, R. A. Sramek, & K. W. Weiler.* 300, L55, 13-D6 (1986)

Radio Supernovae. *K. W. Weiler, R. A. Sramek, N. Panagia, J. M. van der Hulst, & M. Salvati.* 301, 790, 24-C5 (1986)

Radio Observations of Starburst Galaxies. *R. A. Sramek & D. W. Weedman.* 302, 640, 37-E12 (1986)

Compact Radio Cores in Extremely Luminous Far-Infrared Galaxies. *R. P. Norris, D. A. Allen, R. A. Sramek, M. J. Kesteven, & E. R. Troup.* 359, 291, 139-F1 (1990)

SRAMEK, RICHARD A. Radio Emission from Supernovae. I. One to Twelve Year Old Supernovae. *Kurt W. Weiler, Nino Panagia, Richard A. Sramek, J. M. van der Hulst, Morton S. Roberts, & Linh Nguyen.* 336, 421, 6-D2 (1989)

Radio Emission from Supernovae. II. SN 1986J: A Different Kind of Type II. *Kurt W. Weiler, Nino Panagia, & Richard A. Sramek.* 364, 611, 203-F13 (1990)

SREEDHAR RAO, S. 41 Sextantis A: Prototype of a New Class among Am Stars. *S. Sreedhar Rao, K. D. Abhyankar, & Praveen Nagar.* 365, 336, 210-E7 (1990)

SREEKANTAN, B. V. Observations of Steady Flux of PeV–Energy Extensive Air Showers from Cygnus X-3 during 1984–1986. *S. C. Tonwar, N. V. Gopalakrishnan, M. R. Rajeev, & B. V. Sreekantan.* 330, L107, 104-G7 (1988)

A Possible Very High Energy Gamma-Ray Burst from Hercules X-1. *P. R. Vishwanath, P. N. Bhat, P. V. Ramanamurthy, & B. V. Sreekantan.* 342, 489, 106-F11 (1989)

Episodic Emission from Hercules X-1 at Energies Greater than 10^{14} eV: Observations with Ooty Extensive Air Shower Array during 1986. *S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, R. Srivatsan, & S. C. Tonwar.* 354, L13, 80-B8 (1990)

SREENIVASAN, S. R. The Size of Convective Cores in Rotating Stellar Models. *S. R. Sreenivasan & W. J. F. Wilson.* 341, 939, 96-G1 (1989)

SRIVASTAVA, S. K. Radiative Lifetimes of B and $C^1\Sigma^+$ States of CO. *E. Krishnakumar & S. K. Srivastava.* 307, 795, 105-F3 (1986)

SRIVATSAN, R. Episodic Emission from Hercules X-1 at Energies Greater than 10^{14} eV: Observations with Ooty Extensive Air Shower Array during 1986. *S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, R. Srivatsan, & S. C. Tonwar.* 354, L13, 80-B8 (1990)

STABELL, R. The Extragalactic Background Light and a Definitive Resolution of Olbers's Paradox. *Paul S. Wesson, K. Valle, & R. Stabell.* 317, 601, 72-F5 (1987)

STACEY, G. J. Submillimeter and Far-Infrared Spectroscopy of M17 and S106: UV-heated, Quiescent Molecular Gas? *A. I. Harris, J. Stutzki, R. Genzel, J. B. Lugten, G. J. Stacey, & D. T. Jaffe.* 322, L49, 145-D6 (1987)

Submillimeter and Far-Infrared Line Observations of M17 SW: A Clumpy Molecular Cloud Penetrated by Ultraviolet Radiation. *J. Stutzki, G. J. Stacey, R. Genzel, A. I. Harris, D. T. Jaffe, & J. B. Lugten.* 332, 379, 127-C6 (1988)

Detection of Far-Infrared ^{13}CO Line Emission. *R. Genzel, A. Poglitsch, & G. J. Stacey.* 333, L59, 152-D1 (1988)

Strong, Spatially Extended CO 7→6 Emission from Luminous Cloud Cores: W52 and DR 21. *D. T. Jaffe, R. Genzel, A. I. Harris, J. B. Lugten, G. J. Stacey, & J. Stutzki.* 344, 265, 136-C10 (1989)

Further Observations of Rotationally Excited Far-Infrared ^{16}OH and ^{18}OH Emission in Orion-KL: Tighter Constraints on the Nature of the Emitting Region. *G. J. Melnick, G. J. Stacey, R. Genzel, J. B. Lugten, & A. Poglitsch.* 348, 161, 3-A10 (1990)

Warm Dense Gas in the Reflection Nebula NGC 2023. *D. T. Jaffe, R. Genzel, A. I. Harris, J. E. Howe, G. J. Stacey, & J. Stutzki.* 353, 193, 64-E1 (1990)

Far-Infrared, Submillimeter, and Millimeter Spectroscopy of the Galactic Center: Radio Arc and +20/+50 Kilometer per Second Clouds. *R. Genzel, G. J. Stacey, A. I. Harris, C. H. Townes, N. Geis, U. U. Graf, A. Poglitsch, & J. Stutzki.* 356, 160, 101-A9 (1990)

STACEY, GORDON J. Observations of the 157.7 Micron [C II] Emission from the Galactic H II Regions W3 and W51. *Gary Melnick, Gordon J. Stacey, Paul J. Viscuso, & Charles E. Fuller.* 303, 638, 49-E1 (1986)

Detection of Interstellar CH in the Far-Infrared. *Gordon J. Stacey, J. B. Lugten, & R. Genzel.* 313, 859, 26-B9 (1987)

STAELIN, D. H. Initial Stellar Diameter Measurements with the Mark III Interferometer. *M. Shao, M. M. Colavita, B. E. Hines, D. H. Staelin, D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 327, 905, 58-E5 (1988)

Angular Diameter Measurements of 24 Giant and Supergiant Stars from the Mark III Optical Interferometer. *D. J. Hutter, K. J. Johnston, D. Mozurkewich, R. S. Simon, M. M. Colavita, X. P. Pan, M. Shao, B. E. Hines, D. H. Staelin, J. L. Hershey, J. A. Hughes, & G. H. Kaplan.* 340, 1103, 82-A5 (1989)

STAHLER, S. Rotational and Radial Velocities of T Tauri Stars. *L. Hartmann, R. Hewett, S. Stahler, & R. D. Mathieu.* 309, 275, 122-G14 (1986)

STAHLER, STEVEN W. Primordial Stellar Evolution: The Protostar Phase. *Steven W. Stahler, Francesco Palla, & E. E. Salpeter.* 302, 590, 37-A13 (1986)

Primordial Stellar Evolution: The Pre–Main-Sequence Phase. *Steven W. Stahler, Francesco Palla, & E. E. Salpeter.* 308, 697, 116-E9 (1986)

Deuterium and the Stellar Birthline. *Steven W. Stahler.* 332, 804, 133-C7 (1988)

Numerical Models of Rotating Protostars. *Richard H. Durisen, Shelby Yang, Patrick Cassen, & Steven W. Stahler.* 345, 959, 162-D9 (1989)

Luminosity Jumps in Pre–Main-Sequence Stars. *Steven W. Stahler.* 347, 950, 195-C13 (1989)

The Birthline for Intermediate-Mass Stars. *Francesco Palla & Steven W. Stahler.* 360, L47, 156-D1 (1990)

Numerical Models of Rotating Protostars: Erratum. *Richard H. Durisen, Shelby Yang, Patrick Cassen, & Steven W. Stahler.* 361, 720, 167-A12 (1990) (Orig. paper in 345, 959, 162-D9 (1989))

STALIO, ROBERTO. Intrinsic Ultraviolet (912–3200 Å) Energy Distribution of OB Stars. *Renata Longo, Roberto Stalio, Ronald S. Polidan, & Lucio Rossi.* 339, 474, 55-G4 (1989)

STAMM, R. Partial Redistribution in High-Density, Highly Ionized Plasmas. *B. Talin, R. Stamm, V. P. Kaftandjian, & Lewis Klein.* 322, 804, 148-E12 (1987)

STANDLEY, C. Measurements of the Diameter of the Large Magellanic Cloud Supernova SN 1987A. *M. Karovska, L. Koechlin, P. Nisenson, C. Papaliolios, & C. Standley.* 340, 435, 72-E12 (1989)

STANEV, TODOR. Constraints on Models of Cygnus X-3 from High-Energy Gamma-Ray Absorption at Source. *R. J. Protheroe & Todor Stanev.* 322, 838, 149-A8 (1987)

Proton-generated MeV Gamma Rays from Supernova 1987A. *Todor Stanev & H. P. Vankov.* 343, 828, 129-E4 (1989)

Signatures of Particle Acceleration at SN 1987A. *T. K. Gaisser, Alice K. Harding, & Todor Stanev.* 345, 423, 154-D4 (1989)

STANFORD, S. A. R Coronae Borealis Dust Ejections: A Preferred Plane? *S. A. Stanford, G. C. Clayton, M. R. Meade, K. H. Nordsieck, B. A. Whitney, M. A. Murison, M. A. Nook, & C. M. Anderson.* 325, L9, 25-A14 (1988)

A Single Rotating Disk of H I in Arp 299 (NGC 3690/IC 694). *S. A. Stanford & Douglas O. S. Wood.* 346, 712, 176-C1 (1989)

CO Aperture Synthesis of NGC 4038/39 (Arp 244). *S. A. Stanford, A. I. Sargent, D. B. Sanders, & N. Z. Scoville.* 349, 492, 21-D1 (1990)

The Kinematics and Morphology of NGC 520. *S. A. Stanford & M. Balcells.* 355, 59, 87-F10 (1990)

The H I Tidal Tail between NGC 520 and UGC 957. *S. A. Stanford.* 358, 153, 123-G12 (1990)

A Counterrotating Core in the Merger Remnant Candidate NGC 3656 (Arp 155). *Marc Balcells & S. A. Stanford.* 362, 443, 176-A5 (1990)

STANG, P. D. Current Status of the Galactic Center Positron-Annihilation Source. *M. Leventhal, C. J. MacCallum, A. F. Huters, & P. D. Stang.* 302, 459, 33-C3 (1986)

A New Constraint on the Galactic Plane ^{26}Al Distribution. *C. J. MacCullum, A. F. Huters, P. D. Stang, & M. Leventhal.* 317, 877, 75-F1 (1987)

STANGA, R. M. NGC 985: Extended Ionized Regions and the Far-Infrared Luminosity of a Ring-shaped Seyfert Galaxy. *J. M. Rodríguez-Espinosa & R. M. Stanga.* 365, 502, 214-C12 (1990)

STANGHELLINI, LETIZIA. Electron Densities in Planetary Nebulae. *Letizia Stanghellini & James B. Kaler.* 343, 811, 129-D1 (1989)

STANHILL, DAVID. Angular Correlations in Decontaminated Abell Catalogs. *Scot Olivier, George R. Blumenthal, Avishai Dekel, Joel R. Primack, & David Stanhill.* 356, 1, 99-B1 (1990)

STAPELFELDT, K. R. Interferometric C^{18}O Observations of DR 21(OH) and L1551 IRS 5 at γ = 1.4 Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)

STARK, A. A. Molecules in Galaxies. VI. Diffuse and Dense Cloud Contributions to the Large-Scale CO Emission of the Galaxy. *K. S. Polk, G. R. Knapp, A. A. Stark, & R. W. Wilson.* 332, 432, 127-G5 (1988)

Far-Infrared and Submillimeter Photometric Mapping of Spiral Galaxies in the Virgo Cluster. *A. A. Stark, J. A. Davidson, S. Platt, D. A. Harper, R. Pernic, R. Loewenstein, G. Engargiola, & S. Casey.* 337, 650, 27-B1 (1989)

STARK, ANTONY A. A Search for the Sunyaev-Zel'dovich Effect at λ = 3 Millimeters. *Simon J. E. Radford, Paul E. Boynton, Bobby L. Ulich, R. Bruce Partridge, Robert A. Schommer, Antony A. Stark, Robert W. Wilson, & Stephen S. Murray.* 300, 159, 2-F13 (1986)

Detection of Clump and Interclump Gas in the Rosette Molecule Cloud Complex. *Leo Blitz & Antony A. Stark.* 300, L89, 13-F11 (1986)

Molecules in Galaxies. I. CO Observations in a Spiral Arm of M31. *Barbara S. Ryden & Antony A. Stark.* 305, 823, 78-A1 (1986)

Clump 2: An Inner Spiral Arm? *Antony A. Stark & T. M. Bania.* 306, L17, 86-B4 (1986)

Clump 1: An Unusual Molecular Cloud Complex near the Galactic Center. *T. M. Bania, Antony A. Stark, & G. M. Heiligman.* 307, 350, 98-G12 (1986)

Molecules in Galaxies. III. The Virgo Cluster. *Antony A. Stark, G. R. Knapp, John Bally, Robert W. Wilson, Arno A. Penzias, & Harrison E. Rowe.* 310, 660, 141-B8 (1986)

Galactic Center Molecular Clouds. I. Spatial and Spatial Velocity Maps. *John Bally, Antony A. Stark, Robert W. Wilson, & Christian Henkel.* 65, 13, 28-B2 (1987)

Molecules in Galaxies. V. CO Observations of Flocculent and Grand-Design Spirals. *Antony A. Stark, Bruce G. Elmegreen, &*

Don Chance. 322, 64, 138-F1 (1987)
Galactic Center Molecular Clouds. II. Distribution and Kinematics. *John Bally, Antony A. Stark, Robert W. Wilson, & Christian Henkel.* 324, 223, 3-E8 (1988)
G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)
Kinematics of Molecular Clouds. II. New Data on Nearby Giant Molecular Clouds. *Antony A. Stark & Jan Brand.* 339, 763, 61-C2 (1989)
The Rotation Curve of the Milky Way to $2R_0$. *Michel Fich, Leo Blitz, & Antony A. Stark.* 342, 272, 104-C2 (1989)
STARK, GLENN. Oscillator Strengths of the CN Red System. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engleman, Jr., John G. Phillips, & Robert P. Hubbard.* 303, 892, 52-D8 (1986)
Oscillator Strengths of the CN Red System: Erratum. *Sumner P. Davis, Dan Shortenhaus, Glenn Stark, Rolf Engelman, Jr., John G. Phillips, & Robert P. Hubbard.* 307, 414, 99-E10 (1986) (Orig. paper in 303, 892, 52-D8 (1986))
STARK, RICHARD F. Accretion onto a Moving Black Hole: A Fully Relativistic Treatment. *Loren I. Petrich, Stuart L. Shapiro, Richard F. Stark, & Saul A. Teukolsky.* 336, 313, 5-A1 (1989)
STARKMAN, GLENN D. Is the Universe Closed by Baryons? Nucleosynthesis with a Late-decaying Massive Particle. *Savas Dimopoulos, Rahim Esmailzadeh, Lawrence J. Hall, & Glenn D. Starkman.* 330, 545, 98-E1 (1988)
STARR, C. H. An Imaging Observation of SN 1987A at Gamma-Ray Energies. *W. R. Cook, D. M. Palmer, T. A. Prince, S. M. Schindler, C. H. Starr, & E. C. Stone.* 334, L87, 169-D12 (1988)
STARR, R. Energetics and Dynamics of Simple Impulsive Solar Flares. *R. Starr, W. A. Heindl, C. J. Crannell, R. J. Thomas, D. A. Batchelor, & A. Magun.* 329, 967, 87-F3 (1988)
Gamma-Ray Observations of SN 1987A from Antarctica. *A. C. Rester, R. L. Coldwell, F. E. Dunnam, G. Eichhorn, J. I. Trombka, R. Starr, & G. P. Lasche.* 342, L71, 117-D1 (1989)
STARRFIELD, S. A Model for the 1987 Outburst of the Recurrent Nova U Scorpii. *S. Starrfield, W. M. Sparks, & G. Shaviv.* 325, L35, 31-C11 (1988)
STARRFIELD, SUMNER. Hydrodynamic Models for Novae with Ejecta Rich in Oxygen, Neon, and Magnesium. *Sumner Starrfield, Warren M. Sparks, & James W. Truran.* 303, L5, 47-A11 (1986)
The Effect of Heating from the Boundary Layer on Accretion Models for Novae and Other Compact Objects. *Giora Shaviv & Sumner Starrfield.* 321, L51, 129-F3 (1987)
On the Composition Dependence of Thermonuclear Runaway Models for the Recurrent Nova U Scorpii. *James W. Truran, Mario Livio, John Hayes, Sumner Starrfield, & Warren M. Sparks.* 324, 345, 5-A3 (1988)
Accretion onto Main-Sequence Stars. I. The Transient Phase. *Giora Shaviv & Sumner Starrfield.* 335, 383, 174-G5 (1988)
STARRFIELD, SUMNER G. On the Evolutionary State of Cataclysmic Variable White Dwarfs and Their Recurrence Times. *Edward M. Sion & Sumner G. Starrfield.* 303, 130, 42-D7 (1986)
CBS 78: A Second Extremely Rare DBZ Degenerate Star with Accreted Calcium. *Edward M. Sion, Harry L. Shipman, R. Mark Wagner, James Liebert, & Sumner G. Starrfield.* 308, L67, 120-G2 (1986)
Pulsations of White Dwarf Stars with Thick Hydrogen or Helium Surface Layers. *Arthur N. Cox, Sumner G. Starrfield, Russell B. Kidman, & W. Dean Pesnell.* 317, 303, 67-B14 (1987)
Hot Subluminous Stars and Blue Objects in the Case Low-Dispersion Northern Sky Survey. I. *R. Mark Wagner, Edward M. Sion, James Liebert, & Sumner G. Starrfield.* 328, 213, 64-C8 (1988)
Abundances in the Hot DZ Star CBS 127: How Efficient Is Hydrogen Screening? *Edward M. Sion, Gordon L. Hammond, R. Mark Wagner, Sumner G. Starrfield, & James Liebert.* 362, 691, 179-C11 (1990)
STARS, ANTONY A. Filamentary Structure in the Orion Molecular Cloud. *John Bally, William D. Langer, Antony A. Stars, & Robert W. Wilson.* 312, L45, 14-B12 (1987)
STATHAKIS, RAYLEE. Million Degree Gas in the Galactic Halo and the Large Magellanic Cloud. II. The Line of Sight to SN 1987A. *Max Pettini, Raylee Stathakis, Sandro D'Odorico, Paolo Molaro, & Giovanni Vladilo.* 340, 256, 70-C1 (1989)
STATLER, THOMAS S. Evolution of *N*-Body Systems with Tidally Captured Binaries through the Core Collapse Phase. *Thomas S. Statler, Jeremiah P. Ostriker, & Haldan N. Cohn.* 316, 626, 58-G9 (1987)
Self-consistent Models of Perfect Triaxial Galaxies. *Thomas S. Statler.* 321, 113, 123-D1 (1987)
Orbital Decay in Aspherical Galaxies. I. Oblate Systems. *Thomas S. Statler.* 331, 71, 106-G1 (1988)
Problems in Determining the Surface Density of the Galactic Disk. *Thomas S. Statler.* 344, 217, 135-F5 (1989)
STAUBERT, R. *EXOSAT* Observations of 3C 371. *R. Staubert, H. Brunner, & D. M. Worrall.* 310, 694, 141-E6 (1986)
Hard X-Ray Spectrum of Supernova 1987A on Day 407. *P. Ubertini, A. Bazzano, R. Sood, R. Staubert, T. J. Sumner, & G. Frye.* 337, L19, 25-B11 (1989)
STAUDE, H. J. A New Cometary Nebula in Cygnus. *Th. Neckel & H. J. Staude.* 320, L145, 121-F1 (1987)
Temporal Changes of the IRS 5 Jet in L1551. *Th. Neckel & H. J. Staude.* 322, L27, 145-B13 (1987)
STAUFFER, J. Optical Observations of the X-Ray Nova EXO 0748−676 near Maximum Light. *D. Crampton, A. P. Cowley, J. Stauffer, P. Ianna, & J. B. Hutchings.* 306, 599, 91-B5 (1986)
STAUFFER, J. R. Pre–Main-Sequence Disk Accretion in Z Canis Majoris. *L. Hartmann, S. J. Kenyon, R. Hewett, S. Edwards, K. M. Strom, S. E. Strom, & J. R. Stauffer.* 338, 1001, 46-C5 (1989)
STAUFFER, JOHN. Pre–Main-Sequence Stars in the Young Cluster IC 2391. *John Stauffer, Lee W. Hartmann, Burton F. Jones, & Brian R. McNamara.* 342, 285, 104-D3 (1989)
How to Unveil a T Tauri Star. *Patrick Hartigan, Lee Hartmann, Scott Kenyon, Robert Hewett, & John Stauffer.* 70, 899, 32-D1 (1989)
Possible Pleiades Members with $\mathcal{M} \cong 0.07\ \mathcal{M}_\odot$: Identification of Brown Dwarf Candidates of Known Age, Distance, and Metallicity. *John Stauffer, Donald Hamilton, Ronald Probst, George Rieke, & Mario Mateo.* 344, L21, 140-B13 (1989)
Pre–Main-Sequence Stars in the Young Cluster IC 2391: Erratum. *John Stauffer, Lee W. Hartmann, Burton F. Jones, & Brian R. McNamara.* 350, 480, 30-G5 (1990) (Orig. paper in 342, 285, 104-D3 (1989))
STAUFFER, JOHN R. Chromospheric Activity, Kinematics, and Metallicities of Nearby M Dwarfs. *John R. Stauffer & Lee W. Hartmann.* 61, 531, 24-E13 (1986)
The Distribution of Rotational Velocities for Low-Mass Stars in the Pleiades. *John R. Stauffer & Lee W. Hartmann.* 318, 337, 82-E5 (1987)
Rotational Velocities of Low-Mass Stars in the Hyades. *John R. Stauffer, Lee W. Hartmann, & David W. Latham.* 320, L51, 114-D12 (1987)
Lithium in Lower-Main-Sequence Stars of the α Persei Cluster. *Suchitra Balachandran, David L. Lambert, & John R. Stauffer.* 333, 267, 141-A9 (1988)
A Study of Excess Hα Emission in Chromospherically Active M Dwarf Stars. *Arthur Young, Andrew Skumanich, John R. Stauffer, Bernard W. Bopp, & Eugene Harlan.* 344, 427, 138-C5 (1989)
Rotational Velocities of Newly Discovered, Low-Mass Members of the Alpha Persei Cluster. *John R. Stauffer, Lee W. Hartmann, & Burton F. Jones.* 346, 160, 168-B1 (1989)
Further Evidence for Differential Rotation in V1057 Cygni. *Alan D. Welty, Stephen E. Strom, Karen M. Strom, Lee W. Hartmann, Scott J. Kenyon, Gary L. Grasdalen, & John R. Stauffer.* 349, 328, 17-G12 (1990)
A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)
STAVELEY-SMITH, L. An Upper Limit on the H I Content of the Carina Dwarf Spheroidal Galaxy. *J. R. Mould, G. D. Bothun, P. J. Hall, L. Staveley-Smith, & A. E. Wright.* 362, L55, 181-C7 (1990)

Michigan 160: Internal Kinematics and the Cosmic Distance Scale. *L. Staveley-Smith, J. Bland, D. J. Axon, R. D. Davies, & R. M. Sharples.* 364, 23, 194-C11 (1990)

STAVELEY-SMITH, LISTER. An Optical Counterpart to the H I Cloud in the Local Supercluster. *Chris Impey, Gregory Bothun, David Malin, & Lister Staveley-Smith.* 351, L33, 49-C1 (1990)

STAVERT, L. R. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

STEBBINS, ALBERT. The Universe between $z = 10$ and $z = 1000$: Spectral Constraints on Reheating. *Albert Stebbins & Joseph Silk.* 300, 1, 1-A4 (1986)

Cosmic Strings and Cold Matter. *Albert Stebbins.* 303, L21, 53-B1 (1986)

Cosmic String Wakes. *Albert Stebbins, Shoba Veeraraghavan, Robert Brandenberger, Joseph Silk, & Neil Turok.* 322, 1, 138-A7 (1987)

Cosmic Strings and the Microwave Sky. I. Anisotropy from Moving Strings. *Albert Stebbins.* 327, 584, 55-B3 (1988)

Is the Great Attractor Really a Great Wall? *Albert Stebbins & Michael S. Turner.* 339, L13, 58-B4 (1989)

Topology of Microwave Background Fluctuations: Theory. *J. Richard Gott III, Changbom Park, Roman Juszkiewicz, William E. Bies, David P. Bennett, François R. Bouchet, & Albert Stebbins.* 352, 1, 50-A11 (1990)

Causal Compensated Perturbations in Cosmology. *Shoba Veeraraghavan & Albert Stebbins.* 365, 37, 206-E1 (1990)

STECHER, T. P. The Unusual Dust-Scattering Properties in the Reflection Nebula CED 201. *A. N. Witt, R. C. Bohlin, T. P. Stecher, & S. M. Graff.* 321, 912, 134-E1 (1987)

STECHER, THEODORE P. Colors of Reflection Nebulae. III. Ultraviolet Scattering by Small Particles in Reflection Nebulae Associated with 17, 20, and 23 Tauri. *Adolf N. Witt, Ralph C. Bohlin, & Theodore P. Stecher.* 302, 421, 32-G7 (1986)

Detection of Scattering in the 2175 Å Interstellar Band. *Adolf N. Witt, Ralph C. Bohlin, & Theodore P. Stecher.* 305, L23, 74-B11 (1986)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 320, 159, 109-F12 (1987)

Physical Parameters for 12 Planetary Nebulae and Their Central Stars in the Magellanic Clouds: Erratum. *Lawrence H. Aller, Charles D. Keyes, Stephen P. Maran, Theodore R. Gull, Andrew G. Michalitsianos, & Theodore P. Stecher.* 326, 1040, 45-A9 (1988) (Orig. paper in 320, 159, 109-F12 (1987))

Images in the Rocket Ultraviolet: UV Fluxes of M31 Globular Clusters. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, & Theodore P. Stecher.* 334, 657, 163-E8 (1988)

UV Fluorescence of Molecular Hydrogen and Red Dust Emission in the Gamma Cassiopeiae Nebulae IC 63. *Adolf N. Witt, Theodore P. Stecher, Todd A. Boroson, & Ralph C. Bohlin.* 336, L21, 8-D2 (1989)

Images in the Rocket Ultraviolet: Star Formation and Extinction in the M51 System. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, Robert W. O'Connell, & Theodore P. Stecher.* 352, 55, 50-F13 (1990)

An Extremely Carbon-poor Planetary Nebula in the Small Magellanic Cloud. *Stephen J. Meatheringham, Stephen P. Maran, Theodore P. Stecher, Andrew G. Michalitsianos, Theodore R. Gull, Lawrence H. Aller, & Charles D. Keyes.* 361, 101, 158-C5 (1990)

Images in the Rocket Ultraviolet: Young Clusters in H II Regions of M83. *Ralph C. Bohlin, Robert H. Cornett, Jesse K. Hill, & Theodore P. Stecher.* 363, 154, 184-A9 (1990)

STECK, D. Arrival Directions of Cosmic Rays of $E > 0.4$ EeV. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, J. W. Elbert, P. R. Gerhardy, S. Ko, E. C. Loh, Y. Mizumoto, P. Sokolsky, & D. Steck.* 303, 333, 44-F7 (1986)

Sporadic and Periodic 10–1000 TeV Gamma Rays from Cygnus X-3. *R. M. Baltrusaitis, G. L. Cassiday, R. Cooper, B. R. Dawson, J. W. Elbert, B. E. Fick, P. R. Gerhardy, K. D. Green, D. F. Liebing, C. P. Lingle, E. C. Loh, P. Sokolsky, P. Sommers, & D. Steck.* 323, 685, 162-C1 (1987)

STECKER, F. W. Effects of High-Energy Neutrino Production and Interactions on Stars in Close X-Ray Binaries. *T. K. Gaisser, F. W. Stecker, A. K. Harding, & J. J. Barnard.* 309, 674, 128-F1 (1986)

Cosmic-Ray Antiprotons, Positrons, and Gamma Rays from Halo Dark Matter Annihilation. *S. Rudaz & F. W. Stecker.* 325, 16, 19-B8 (1988)

The Cosmic-Ray Antiproton Spectrum from Dark Matter Annihilation and Its Astrophysical Implications: A New Look. *F. W. Stecker & A. J. Tylka.* 336, L51, 16-E6 (1989)

Spectra, Fluxes, and Observability of Gamma Rays from Dark Matter Annihilation in the Galaxy. *F. W. Stecker & A. J. Tylka.* 343, 169, 120-C11 (1989)

STECKER, FLOYD W. Large-scale Structure Formation and Cosmic Microwave Anisotropy in a Cold plus Hot Dark Matter Universe. *Robert K. Schaefer, Quaisar Shafi, & Floyd W. Stecker.* 347, 575, 190-D1 (1989)

The Cosmological Evolution Models of Active Galaxies and the Extragalactic Gamma-Ray Background. *Yi-Tian Gao, David B. Cline, & Floyd W. Stecker.* 357, L1, 115-B1 (1990)

Large-Scale Anisotropy in the Extragalactic Gamma-Ray Background as a Probe for Cosmological Antimatter. *Yi-Tian Gao, Floyd W. Stecker, Marcelo Gleiser, & David B. Cline.* 361, L37, 168-B1 (1990)

STEEL, T. M. A 217.5 Nanometer Absorption Feature in the Spectrum of Small Silicate Particles. *T. M. Steel & W. W. Duley.* 315, 337, 43-E8 (1987)

STEFFES, PAUL G. Evaluation of the Microwave Spectrum of Venus in the 1.2–22 Centimeter Wavelength Range Based on Laboratory Measurements of Constituent Gas Opacities. *Paul G. Steffes.* 310, 482, 137-C8 (1986)

STEIDEL, CHARLES C. The Effect of the Lyman-Alpha Forest on the Ultraviolet Continua of Very High Redshift Quasars. *Charles C. Steidel & Wallace L. W. Sargent.* 313, 171, 16-G7 (1987)

A New Upper Limit on the Density of Generally Distributed Intergalactic Neutral Hydrogen. *Charles C. Steidel & Wallace L. W. Sargent.* 318, L11, 85-A13 (1987)

Absorption in the Wide QSO Pair Tololo 1037–2704 and Tololo 1038–2712: Evidence for a Specially Aligned Supercluster at $z = 2$? *Wallace L. W. Sargent & Charles C. Steidel.* 322, 142, 139-D11 (1987)

QSO Absorption Lines and the Time Scale for Initial Heavy-Element Enrichment in Galaxies. *Charles C. Steidel, Wallace L. W. Sargent, & A. Boksenberg.* 333, L5, 144-A9 (1988)

Mg II Absorption in the Spectra of High and Low Redshift QSOs. *Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 334, 22, 154-C3 (1988)

C IV Absorption in a New Sample of 55 QSOs: Evolution and Clustering of the Heavy-Element Absorption Redshifts. *Wallace L. W. Sargent, A. Boksenberg, & Charles C. Steidel.* 68, 539, 31-D1 (1988)

A Survey of Lyman-Limit Absorption in the Spectra of 59 High-Redshift QSOs. *Edward B. Jenkins, Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 69, 703, 12-B1 (1989)

QSO Heavy Element Absorption Systems and the Nature of the Metagalactic Ionizing Flux at High Redshift. *Charles C. Steidel & Wallace L. W. Sargent.* 343, L33, 132-A10 (1989)

A High-Redshift Extension of the Survey for C IV Absorption in the Spectra of QSOs: The Redshift Evolution of the Heavy-Element Absorbers. *Charles C. Steidel.* 72, 1, 1-B1 (1990)

The Lyman Limit Absorption System in the Spectrum of PKS 2126–158: Heavy-Element Abundance at High Redshift. *Wallace L. W. Sargent, Charles C. Steidel, & A. Boksenberg.* 351, 364, 44-D11 (1990)

Absorption Lines in the Spectrum of Q0248+4302 Due to a Foreground Tidal Tail. *Wallace L. W. Sargent & Charles C. Steidel.* 359, L37, 144-A13 (1990)

The Properties of Lyman Limit Absorbing Clouds at $z = 3$: Physical Conditions in the Extended Gaseous Halos of High-Redshift Galaxies. *Charles C. Steidel.* 74, 37, 30-E2 (1990)

STEIGER, W. CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)

STEIGMAN, GARY. Destruction of ^{3}He in Stars. *D. S. P. Dearborn, David N. Schramm, & Gary Steigman.* 302, 35, 28-C13 (1986)

Primordial Lithium: New Reaction Rates, New Abundances, New Constraints. *Lawrence Kawano, David Schramm, & Gary Steigman.* 327, 750, 56-G4 (1988)

The Shocking Development of Lithium (and Boron) in Supernovae. *David S. P. Dearborn, David N. Schramm, Gary Steigman, & James Truran.* 347, 455, 187-F5 (1989)

Main-Sequence Mass Loss and the Lithium Dip. *David N. Schramm, Gary Steigman, & David S. P. Dearborn.* 359, L55, 144-C6 (1990)

STEIMAN-CAMERON, DEBRA V. High-Speed Optical Photometry of the DQ Herculis Object H2215–086. *Thomas Y. Steiman-Cameron, James N. Imamura, & Debra V. Steiman-Cameron.* 339, 434, 55-D1 (1989)

STEIMAN-CAMERON, T. A 190 Second Periodicity in the Optical Emission of the Enigmatic X-Ray Source GX 339–4. *T. Steiman-Cameron, J. Imamura, J. Middleditch, & J. Kristian.* 359, 197, 136-E1 (1990)

STEIMAN-CAMERON, T. Y. A Search for Optical Millisecond Pulsars in Globular Clusters. *J. H. Middleditch, J. N. Imamura, & T. Y. Steiman-Cameron.* 335, 753, 181-A1 (1988)

Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

STEIMAN-CAMERON, THOMAS Y. Red Giant Model Atmospheres. IV. Colors of K and M Giant Models. *Thomas Y. Steiman-Cameron & H. R. Johnson.* 301, 868, 25-B9 (1986)

High-Speed Multicolor Photometry of AN Ursae Majoris. *James N. Imamura & Thomas Y. Steiman-Cameron.* 311, 786, 156-C13 (1986)

A Possible 1.13 Millisecond Periodicity in GX 339–4. *James N. Imamura, Thomas Y. Steiman-Cameron, & John Middleditch.* 314, L11, 33-B13 (1987)

Rapid Optical Flaring in MXB 1735–444 and an Optical Burst from GX 17+2. *James N. Imamura, Thomas Y. Steiman-Cameron, & John Middleditch.* 320, L41, 114-D3 (1987)

Evolution of Inclined Galactic Gas Disks. I. A Cloud-Fluid Approach. *Thomas Y. Steiman-Cameron & Richard H. Durisen.* 325, 26, 19-C4 (1988)

High-Speed Optical Photometry of the DQ Herculis Object H2215–086. *Thomas Y. Steiman-Cameron, James N. Imamura, & Debra V. Steiman-Cameron.* 339, 434, 55-D1 (1989)

A Simple Analytic Model for the Evolution of Captured Galactic Disks. *Thomas Y. Steiman-Cameron & Richard H. Durisen.* 357, 62, 111-G4 (1990)

The 8 Second Optical Quasi-periodic Oscillations in GX 339–4. *James N. Imamura, Jerome Kristian, John Middleditch, & Thomas Y. Steiman-Cameron.* 365, 312, 210-C5 (1990)

STEIMLE, T. C. The Microwave and Far-Infrared Spectra of the ^{18}OH Radical. *E. R. Comben, J. M. Brown, T. C. Steimle, K. R. Leopold, & K. M. Evenson.* 305, 513, 72-G9 (1986)

STEIN, JOHN. A Study of Upgren 1. *George Gatewood, Joost Kiewiet de Jonge, Michael Castelaz, Inwoo Han, Timothy Persinger, James Prosser, Thomas Reiland, & John Stein.* 332, 917, 134-D12 (1988)

A Map-based Determination of the Nature of Beta Delphini. *George Gatewood, Michael Castelaz, Timothy Persinger, John Stein, Pierre Demarque, Sabatino Sofia, & Bruce Stephenson.* 342, 1085, 115-E7 (1989)

MAP–based Trigonometric Parallaxes of Open Clusters: The Pleiades. *George Gatewood, Michael Castelaz, Inwoo Han, Timothy Persinger, John Stein, Bruce Stephenson, & William Tangren.* 364, 114, 195-D5 (1990)

STEIN, R. F. Topology of Convection beneath the Solar Surface. *R. F. Stein & Å. Nordlund.* 342, L95, 117-F1 (1989)

STEIN, W. A. Sagittarius A* and the Positions of Infrared Sources in the Galactic Center. *W. J. Forrest, J. L. Pipher, & W. A. Stein.* 301, L49, 27-B11 (1986)

The Origin of the Photoionizing Continuum of Active Galactic Nuclei and Quasars. *S. L. O'Dell, H. A. Scott, & W. A. Stein.* 313, 164, 16-F14 (1987)

A Nonthermal Model for the XUV, Soft X-Ray Emission of AGN and QSOs. *T. W. Jones & W. A. Stein.* 320, L1, 114-A4 (1987)

Secondary Electron Production and the Millimeter to Gamma-Ray Continuum of Emission-Line Quasi-stellar Objects. *T. W. Jones & W. A. Stein.* 349, 443, 20-F8 (1990)

A Test of Models for the Photoionizing Continua of Quasi-stellar Objects. *W. A. Stein.* 351, L29, 49-B10 (1990)

STEINER, J. E. NSV 12615: An Eclipsing Cataclysmic Variable with Ultrashort Period. *F. J. Jablonski & J. E. Steiner.* 313, 376, 19-A13 (1987)

On the Stability of the 13.2 Minute Oscillation of V1223 Sagittarii. *F. Jablonski & J. E. Steiner.* 323, 672, 162-B2 (1987)

The Photometric Period of Nova Muscae 1983. *M. P. Diaz & J. E. Steiner.* 339, L41, 58-D9 (1989)

STEINER, JOÃO E. BE Ursae Majoris: A Detached Binary with a Unique Reprocessing Spectrum. *Donald H. Ferguson, James Liebert, Roc Cutri, Richard F. Green, S. P. Willner, João E. Steiner, & Susan Tokarz.* 316, 399, 54-D4 (1987)

STEININGER, R. ^{7}Li$(n,\gamma)^8$Li—Trigger Reaction to a Primordial *r*-Process? *M. Wiescher, R. Steininger, & F. Käppeler.* 344, 464, 138-F6 (1989)

STEINOLFSON, R. S. Viscous Normal Modes on Coronal Inhomogeneities and Their Role as a Heating Mechanism. *R. S. Steinolfson, E. R. Priest, S. Poedts, L. Nocera, & M. Goosens.* 304, 526, 59-F3 (1986)

The Synchrotron-Maser Theory of Type II Solar Radio Emission Processes: The Physical Model and Generation Mechanism. *C. S. Wu, R. S. Steinolfson, & G. C. Zhou.* 309, 392, 124-B11 (1986)

Energy Buildup in Coronal Magnetic Flux Tubes. *R. S. Steinolfson & T. Tajima.* 322, 503, 143-D10 (1987)

The Effect of the Solenoidal Condition on the Numerical Magnetohydrodynamic Simulation of Coronal Dynamics. *S. T. Wu, M. Dryer, R. S. Steinolfson, & E. Tandberg-Hanssen.* 333, 386, 142-C8 (1988)

Two-dimensional Magnetohydrodynamic Model of Emerging Magnetic Flux in the Solar Atmosphere. *K. Shibata, T. Tajima, R. S. Steinolfson, & R. Matsumoto.* 345, 584, 156-C8 (1989)

STELLA, L. The Evolution of the 1984 Outburst of the Transient X-Ray Source 4U 1630–47. *A. N. Parmar, L. Stella, & N. E. White.* 304, 664, 63-C8 (1986)

Uncorrelated Soft and Hard X-Ray Short-Term Variations from AM Herculis. *L. Stella, K. Beuermann, & J. Patterson.* 306, 225, 83-F8 (1986)

Bimodal Quasi-oscillatory and Spectral Behavior in Scorpius X-1. *W. Priedhorsky, G. Hasinger, W. H. G. Lewin, J. Middleditch, A. Parmar, L. Stella, & N. White.* 306, L91, 94-A10 (1986)

Intermittent Stellar Wind Acceleration and the Long-Term Activity of Population I Binary Systems Containing an X-Ray Pulsar. *L. Stella, N. E. White, & R. Rosner.* 308, 669, 116-C9 (1986)

The Discovery of a Second Orbital Period from the X-Ray Source 4U 1820–30 in the Globular Cluster NGC 6624. *L. Stella, W. Priedhorsky, & N. E. White.* 312, L17, 7-B4 (1987)

EXOSAT Observations of Double-peaked Bursts with Radius Expansion from 4U/MXB 1820–30. *F. Haberl, L. Stella, N. E. White, W. C. Priedhorsky, & M. Gottwald.* 314, 266, 31-A9 (1987)

The Discovery of 15–30 Hertz Quasi-periodic Oscillations in the X-Ray flux of 4U 1820–30. *L. Stella, N. E. White, & W. Priedhorsky.* 315, L49, 45-E3 (1987)

Einstein Observations of EF Eridani (2A 0311–227), The Textbook Example of AM Herculis–Type Systems. *K. Beuermann, L. Stella, & J. Patterson.* 316, 360, 54-A6 (1987)

Intensity and Source State Dependence of the Quasi-periodic Oscillations in Scorpius X-1. *M. van der Klis, L. Stella, N. White, F. Jansen, & A. N. Parmar.* 316, 411, 54-E3 (1987)

The Complex Cross-Spectra of Cygnus X-2 and GX 5-1. *M. van der Klis, G. Hasinger, L. Stella, A. Langmeier, J. van Paradijs, & W. H. G. Lewin.* 319, L13, 100-B2 (1987)

The Discovery of 7 and 24–28 Hertz Quasi-periodic Oscillations in the X-Ray Flux of GX 17+2 (4U 1812–14). *L. Stella, A. N. Parmar, & N. E. White.* 321, 418, 126-F11 (1987)

The X-Ray Spectral Properties of Accretion Disks in X-Ray Binaries. *N. E. White, L. Stella, & A. N. Parmar.* 324, 363, 5-B7 (1988)

Quasi-periodic Oscillations in the X-Ray Flux of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, J. van Paradijs, & N. E. White.* 324, 379, 5-C9 (1988)

X-Ray Spectrum and Variability of the Black Hole Candidate LMC X-3. *A. Treves, T. Belloni, L. Chiappetti, L. Maraschi, L. Stella, E. G. Tanzi, & M. van der Klis.* 325, 119, 20-D8 (1988)

Time Lags in the Quasi-periodic Oscillations of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, M. van der Klis, & J. van Paradijs.* 327, L13, 53-B1 (1988)

Simultaneous X-Ray and Radio Observations of GX 13+1. *M. R. Garcia, J. E. Grindlay, L. A. Molnar, L. Stella, N. E. White, & E. R. Seaquist.* 328, 552, 69-B12 (1988)

The Discovery of the 2 Hour Modulated X-Ray Source EXO 033319–2554.2, an AM Herculis System. *J. P. Osborne, P. Giommi, L. Angelini, G. Tagliaferri, & L. Stella.* 328, L45, 74-D10 (1988)

The Transient 42 Second X-Ray Pulsar EXO 2030+375. I. The Discovery and the Luminosity Dependence of the Pulse Period Variations. *A. N. Parmar, N. E. White, L. Stella, C. Izzo, & P. Ferri.* 338, 359, 37-D6 (1989)

The Transient 42 Second X-Ray Pulsar EXO 2030+375. II. The Luminosity Dependence of the Pulse Profile. *A. N. Parmar, N. E. White, & L. Stella.* 338, 373, 37-E7 (1989)

The Discovery of 0.2 Hz Quasi-periodic Oscillations in the X-Ray Flux of the Transient 42 Second Pulsar EXO 2030+374. *L. Angelini, L. Stella, & A. N. Parmar.* 346, 906, 178-D9 (1989)

STELLINGWERF, R. F. A Simple Model for Coupled Convection and Pulsation. *R. F. Stellingwerf.* 303, 119, 42-C10 (1986)

Fourier Coefficients of Variable Stars. *R. F. Stellingwerf & M. Donohoe.* 306, 183, 83-C7 (1986)

Overtone Pulsation in Stars. *R. F. Stellingwerf, A. Gautschy, & R. J. Dickens.* 313, L75, 27-D2 (1987)

Fourier Coefficients of Variable Stars. II. Light-Curve Analysis. *R. F. Stellingwerf & M. Donohoe.* 314, 252, 30-G8 (1987)

Fourier Coefficients of the RR Lyrae Variables in NGC 6171. *R. F. Stellingwerf & R. J. Dickens.* 322, 133, 139-D2 (1987)

The Effects of Radiation Pressure on Stellar Stability. *R. F. Stellingwerf & A. Gautschy.* 327, 801, 57-D6 (1988)

STEMWEDEL, SALLY W. Equilibrium Models for Self-gravitating Inviscid Disks Resulting from the Collapse of Rotating Clouds. *Sally W. Stemwedel, Chi Yuan, & Patrick Cassen.* 351, 206, 40-E7 (1990)

STENCEL, R. E. Far-Infrared Properties of Flare Stars and dM Stars. *D. J. Mullan, R. E. Stencel, & D. E. Backman.* 343, 400, 123-A11 (1989)

STENCEL, ROBERT E. Ultraviolet and Infrared Observations of Stars with "Quenched" Chromospheres and the Nature of Mass Loss. *Robert E. Stencel, Kenneth G. Carpenter, & Wendy Hagen.* 308, 859, 118-C10 (1986)

SiO Cooling Instability in the Envelopes of Cool Giant Stars. *David O. Muchmore, Joseph A. Nuth III, & Robert E. Stencel.* 315, L141, 49-F10 (1987)

The Stellar Wind Velocity Function for Red Supergiants Determined in Eclipsing Binaries. *Imad A. Ahmad & Robert E. Stencel.* 329, 797, 85-F8 (1988)

The Ultraviolet Spectrum of Noncoronal Late-Type Stars: The Gamma Crucis (M3.4 III) Reference Spectrum. *Kenneth G. Carpenter, Joseph E. Pesce, Robert E. Stencel, Alexander Brown, Sveneric Johansson, & Robert F. Wing.* 68, 345, 28-B7 (1988)

Line Identifications in the Ultraviolet Spectrum of 31 Cygni. *Wendy Hagen Bauer & Robert E. Stencel.* 69, 667, 11-C1 (1989)

The Formation and Annealing of Circumstellar Dust, as Gauged by *IRAS* Low-Resolution Spectra and the Microwave Maser Chronology. *Robert E. Stencel, Joseph A. Nuth III, Irene R. Little-Marenin, & Stephen J. Little.* 350, L45, 37-C6 (1990)

STENFLO, L. Alfvén Vortices in a Strongly Magnetized Electron-Positron Plasma. *M. Y. Yu, Padma K. Shukla, & L. Stenflo.* 309, L63, 125-G11 (1986)

STENGER, V. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

STENGER, V. J. Pulsed TeV Gamma Rays Detected from Hercules X-1 during X-Ray Source Eclipse. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 308, L11, 113-F6 (1986)

Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 309, 114, 121-C4 (1986)

STEPHEN, J. B. Gamma-Ray Observations of Cygnus X-1. *L. Bassani, A. J. Dean, G. Di Cocco, F. Perotti, & J. B. Stephen.* 343, 313, 122-A10 (1989)

Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)

Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)

STEPHENS, J. R. Simulation of Cosmic Dust Spectra. *J. H. Hecht, R. W. Russell, J. R. Stephens, & P. R. Grieve.* 309, 90, 121-A7 (1986)

STEPHENS, S. Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

STEPHENS, S. A. Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

STEPHENSON, BRUCE. A Map-based Determination of the Nature of Beta Delphini. *George Gatewood, Michael Castelaz, Timothy Persinger, John Stein, Pierre Demarque, Sabatino Sofia, & Bruce Stephenson.* 342, 1085, 115-E7 (1989)

MAP–based Trigonometric Parallaxes of Open Clusters: The Pleiades. *George Gatewood, Michael Castelaz, Inwoo Han, Timothy Persinger, John Stein, Bruce Stephenson, & William Tangren.* 364, 114, 195-D5 (1990)

STEPHENSON, C. B. New Hα Emission Stars Found above 10° Galactic Latitude. *C. B. Stephenson.* 300, 779, 11-F9 (1986)

Late M Stars Found in a Hemispheric Survey. *C. B. Stephenson.* 301, 927, 25-F13 (1986)

STEPIEŃ, K. Coronal Activity in Late-Type Main-Sequence Stars. *K. Stepień.* 335, 892, 182-D11 (1988)

Spin-down of Cool Stars during Their Main-Sequence Life. *K. Stepień.* 335, 907, 182-F1 (1988)

STEPINSKI, T. F. Active Galactic Nuclei. II. The Acceleration of Relativistic Particles in a Cluster of Accreting Black Holes. *A. G. Pacholczyk & T. F. Stepinski.* 324, 695, 11-A1 (1988)

Generation of Dynamo Magnetic Fields in Protoplanetary and Other Astrophysical Accretion Disks. *T. F. Stepinski & E. H. Levy.* 331, 416, 110-G6 (1988)

Active Galactic Nuclei. III. Accretion Flow in an Externally Supplied Cluster of Black Holes. *A. G. Pacholczyk, T. F. Stepinski, & W. R. Stoeger.* 343, 563, 126-C1 (1989)

Dynamo Magnetic Field–induced Angular Momentum Transport in Protostellar Nebulae: The "Minimum Mass" Protosolar Nebula. *T. F. Stepinski & E. H. Levy.* 350, 819, 36-B6 (1990)

Generation of Dynamo Magnetic Fields in Thin Keplerian Disks. *T. F. Stepinski & E. H. Levy.* 362, 318, 173-B5 (1990)

STERLING, A. C. Emergence of Solar Magnetic Flux from the Convection Zone into the Photosphere and Chromosphere. *K. Shibata, S. Nozawa, R. Matsumoto, A. C. Sterling, & T. Tajima.* 351, L25, 43-D1 (1990)

STERLING, ALPHONSE C. The Rebound Shock Model for Solar Spicules: Dynamics at Long Times. *Alphonse C. Sterling & Joseph V. Hollweg.* 327, 950, 59-B1 (1988)

A Rebound Shock Mechanism for Solar Fibrils. *Alphonse C. Sterling & Joseph V. Hollweg.* 343, 985, 131-C7 (1989)

Numerical Simulations of the Rebound Shock Model for Solar Spicules. *Alphonse C. Sterling & John T. Mariska.* 349, 647, 23-C8 (1990)

STERN, C. P. X-Ray Emission Associated with the Jet in 3C 273. *D. E. Harris & C. P. Stern.* 313, 136, 16-D14 (1987)

STERN, R. A. The *Einstein Observatory* Survey of Stars in the Hyades Cluster Region. *G. Micela, S. Sciortino, G. S. Vaiana, J. H. M. M. Schmitt, R. A. Stern, F. R. Harnden, Jr., & R. Rosner.* 325, 798, 29-C8 (1988)

Einstein Observatory Magnitude-limited X-Ray Survey of Late-Type Giant and Supergiant Stars. *A. Maggio, G. S. Vaiana, B. M. Haisch, R. A. Stern, J. Bookbinder, F. R. Harnden, Jr., & R. Rosner.* 348, 253, 4-B3 (1990)

STERN, ROBERT A. Modeling of Coronal X-Ray Emission from Active Cool Stars. I. Hyades Cluster. *Robert A. Stern, Spiro K. Antiochos, & F. R. Harnden, Jr.* 305, 417, 71-F8 (1986)

On the Dividing Line for Stellar Coronae. *Spiro K. Antiochos, Bernhard M. Haisch, & Robert A. Stern.* 307, L55, 107-C1 (1986)

STERN, S. ALAN. The First UV Spectrum of Triton: *IUE* Observations from 2600 to 3200 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 341, L107, 100-D1 (1989)

The UV Spectrum of Pluto-Charon: *IUE* Observations from 2600 to 3100 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 342, 533, 107-C7 (1989)

The Influence of Oort Clouds on the Mass and Chemical Balance of the Interstellar Medium. *S. Alan Stern & J. Michael Shull.* 359, 506, 142-C10 (1990)

STERNBERG, A. Cosmic-Ray–induced Photodestruction of Interstellar Molecules in Dense Clouds. *A. Sternberg, A. Dalgarno, & S. Lepp.* 320, 676, 117-B11 (1987)

The Abundance of H_3^+ Ions in Dense Interstellar Clouds. *S. Lepp, A. Dalgarno, & A. Sternberg.* 321, 383, 126-D4 (1987)

The Infrared Response of Molecular Hydrogen Gas to Ultraviolet Radiation: High-Density Regions. *A. Sternberg & A. Dalgarno.* 338, 197, 35-D6 (1989)

STERNBERG, AMIEL. The Infrared Response to Electron-Position Pair Annihilation at the Galactic Center. *Amiel Sternberg.* 301, 923, 25-F9 (1986)

The Infrared Response of Molecular Hydrogen Gas to Ultraviolet Radiation: A Scaling Law. *Amiel Sternberg.* 332, 400, 127-E1 (1988)

Ultraviolet Fluorescent Molecular Hydrogen Emission. *Amiel Sternberg.* 347, 863, 194-B5 (1989)

Fluorescent HD Emission from Photodissociation Regions. *Amiel Sternberg.* 361, 121, 158-E3 (1990)

STETSON, PETER B. Mass Functions for Globular Cluster Main Sequences Based on CCD Photometry and Stellar Models. *Robert D. McClure, Don A. VandenBerg, Graeme H. Smith, Gregory G. Fahlman, Harvey B. Richer, James E. Hesser, William E. Harris, Peter B. Stetson, & R. A. Bell.* 307, L49, 107-B10 (1986)

STEVENS, IAN R. X-Ray Illuminated Stellar Winds: Ionization Effects in the Radiative Driving of Stellar Winds in Massive X-Ray Binary Systems. *Ian R. Stevens & Timothy R. Kallman.* 365, 321, 210-D1 (1990)

STEVENS, M. A. An *EXOSAT* Observation of CTB 80. *L. Angelini, N. E. White, A. N. Parmar, A. Smith, & M. A. Stevens.* 330, L43, 96-F10 (1988)

STEVENS, MARY. Zeeman Splitting of 18 Centimeter OH Lines toward Cassiopeia A and Other Sources. *Carl Heiles & Mary Stevens.* 301, 331, 17-E1 (1986)

STEVENSON, D. J. Hydromagnetic Constraints on Deep Zonal Flow in the Giant Planets. *R. L. Kirk & D. J. Stevenson.* 316, 836, 61-C4 (1987)

STEVENSON, DAVID J. Gravitational Instability in Two-Phase Disks and the Origin of the Moon. *Christopher Thompson & David J. Stevenson.* 333, 452, 143-B1 (1988)

Chemical Heterogeneity and Imperfect Mixing in the Solar Nebula. *David J. Stevenson.* 348, 730, 11-E4 (1990)

STEWART, A. I. Solar Cycle Study of Interplanetrary Lyman-Alpha Variations: *Pioneer Venus* Orbiter Sky Background Results. *J. M. Ajello, A. I. Stewart, G. E. Thomas, & A. Graps.* 317, 964, 76-F5 (1987)

STEWART, EWAN D. The Evolution of Density Perturbations in the Universe. *David H. Lyth & Ewan D. Stewart.* 361, 343, 162-D7 (1990)

STEWART, G. C. X-Ray Observations of NGC 253 and M83 with *Ginga*. *T. Ohashi, K. Makishima, T. Tsuru, S. Takano, K. Koyama, & G. C. Stewart.* 365, 180, 208-D9 (1990)

STEWART, GLEN R. The Role of Orbital Dynamics and Cloud-Cloud Collisions in the Formation of Giant Molecular Clouds in Global Spiral Structures. *William W. Roberts, Jr., & Glen R. Stewart.* 314, 10, 28-B4 (1987)

STEWART, GORDON C. X-Ray Studies of Galactic and Intergalactic Gas in the Pegasus I Cluster. *Claude R. Canizares, Megan E. Donahue, Ginevra Trinchieri, Gordon C. Stewart, & Thomas A. McGlynn.* 304, 312, 57-C13 (1986)

STEWART, R. T. Radio Emission from EA Eclipsing Binaries: Evidence for Kilogauss Surface Fields on Both Early-Type and Late-Type Stars. *R. T. Stewart, O. B. Slee, Graeme L. White, E. Budding, D. W. Coates, K. Thompson, & John D. Bunton.* 342, 463, 106-D7 (1989)

Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)

STIAVELLI, M. Masses and Mass-to-Light Ratios for Eight Ellipticals from a Test of Anisotropic Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 330, 78, 90-G7 (1988)

Stability Aspects of a Family of Anisotropic Models of Elliptical Galaxies. *G. Bertin & M. Stiavelli.* 338, 723, 42-G1 (1989)

STIAVELLI, MASSIMO. Stability of Nonrotating Stellar Systems. I. Oblate Shell-Orbit Models. *David Merritt & Massimo Stiavelli.* 358, 399, 128-E1 (1990)

STINE, PETER C. A Young Radio-emitting Magnetic B Star in the Rho Ophiuchi Cloud. *Philippe André, Thierry Montmerle, Eric D. Feigelson, Peter C. Stine, & Karl-Ludwig Klein.* 335, 940, 183-A10 (1988)

STINEBRING, D. R. Timing and Scintillations of the Millisecond Pulsar 1937+214. *J. M. Cordes, A. Wolszczan, R. J. Dewey, M. Blaskiewicz, & D. R. Stinebring.* 349, 245, 17-A1 (1990)

The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

Polarimetry of Millisecond Pulsars. *S. E. Thorsett & D. R. Stinebring.* 361, 644, 166-B1 (1990)

STINEBRING, DANIEL R. Improved Timing of the Millisecond Pulsar PSR 1937+21 Using Real-Time Coherent Dedispersion. *T. H. Hankins, Daniel R. Stinebring, & Lloyd A. Rawley.* 315, 149, 41-F1 (1987)

Mode Changing and Quasi-periodic Modulation in Pulsar 1737+13: A Bright, Five-componented Pulsar. *Joanna M. Rankin, Alexander Wolszczan, & Daniel R. Stinebring.* 324, 1048, 15-A11 (1988)

Arecibo 21 Centimeter Polarimetry of 64 Pulsars: A Guide to Classification. *Joanna M. Rankin, Daniel R. Stinebring, & Joel M. Weisberg.* 346, 869, 178-A10 (1989)

Pulsar Flux Stability and Refractive Interstellar Scintillation. *Daniel R. Stinebring & J. J. Condon.* 352, 207, 52-E4 (1990)

ST-LOUIS, N. Photometry and Polarimetry of the Unusual WN5 Star EZ Canis Majoris. *L. Drissen, C. Robert, R. Lamontagne, A. F. J. Moffat, N. St-Louis, N. van Weeren, & A. M. van Genderen.* 343, 426, 123-C13 (1989)

ST-LOUIS, NICOLE. Polarization Variability among Wolf-Rayet Stars. I. Linear Polarization of a Complete Sample of Southern Galactic WC Stars. *Nicole St-Louis, Laurent Drissen, Anthony F. J. Moffat, Pierre Bastien, & Santiago Tapia.* 322, 870, 149-C13 (1987)

Polarization Variability among Wolf-Rayet Stars. II. Linear Polarization as a Complete Sample of Southern Galactic WN Stars. *Laurent Drissen, Nicole St-Louis, Anthony F. J. Moffat, & Pierre Bastien.* 322, 888, 149-E5 (1987)

Polarization Variability among Wolf-Rayet Stars. III. A New Way to Derive Mass-Loss Rates for Wolf-Rayet Stars in Binary Systems. *Nicole St-Louis, Anthony F. J. Moffat, Laurent Drissen, Pierre Bastien, & Carmelle Robert.* 330, 286, 93-C4 (1988)

Polarization Variability among Wolf-Rayet Stars. V. Linear Polarization of the Bright Cygnus Stars and an Anticorrelation of Variability with Wind Speed. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Laurent Drissen, & Nicole St-Louis.* 347, 1034, 196-D5 (1989)

Polarization Variability among Wolf-Rayet Stars. VI. Linear Polarimetry of the Eclipsing Binary V444 Cygni. *Carmelle Robert, Anthony F. J. Moffat, Pierre Bastien, Nicole St-Louis, & Laurent Drissen.* 359, 211, 136-F3 (1990)

STOCKE, J. T. New X-Ray and Optical Observations of the X-Ray Discovered QSO-Galaxy Pair 1E 0104.2+3153. *Isabella M. Gioia, T. Maccacaro, R. E. Schild, P. Giommi, & J. T. Stocke.* 307, 497, 102-B8 (1986)

1E 0116.3–0116: A Peculiar, X-Ray–Bright, Early-Type Galaxy. *D. Maccagni, I. M. Gioia, T. Maccacaro, R. E. Schild, & J. T. Stocke.* 316, 132, 51-D6 (1987)

The *Einstein Observatory* Extended Medium-Sensitivity Survey. I. X-Ray Data and Analysis. *I. M. Gioia, T. Maccacaro, R. E. Schild, A. Wolter, J. T. Stocke, S. L. Morris, & J. P. Henry.* 72, 567, 10-C11 (1990)

The Extended Medium-Sensitivity Survey Distant Cluster Sample: X-Ray Cosmological Evolution. *I. M. Gioia, J. P. Henry, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 356, L35, 110-A10 (1990)

STOCKE, JOHN. Detection of a "Rotating" Gas Cloud 100 Kiloparsecs in Diameter Surrounding 3C 275.1, a Quasar at the Center of a Rich Cluster of Galaxies. *Paul Hintzen & John Stocke.* 308, 540, 114-G1 (1986)

1E 1048.5+5421: A New 114 Minute AM Herculis Binary. *Simon L. Morris, Gary D. Schmidt, James Liebert, John Stocke, Isabella M. Gioia, & Tommaso Maccacaro.* 314, 641, 36-E8 (1987)

STOCKE, JOHN T. Observations of Upper-Level Hydrogen Lines in Seyfert 1 Galaxies. *Christopher W. McAlary, G. H. Rieke, M. J. Lebofsky, & John T. Stocke.* 301, 105, 15-B4 (1986)

High-Resolution Radio Observations of the Most Luminous Quasar. *Helmut Kühr, John T. Stocke, Peter A. Strittmatter, Norbert Bartel, Andreas Eckart, Cornelius Schalinski, Arno Witzel, & Peter Biermann.* 302, 52, 28-E5 (1986)

X-Ray–selected AGNs near Bright Galaxies. *John T. Stocke, Peter Schneider, Simon L. Morris, Isabella M. Gioia, Tommaso Maccacaro, & Rudolph E. Schild.* 315, L11, 45-A14 (1987)

B2 0800+24: A Narrow-Angle Tail Radio Galaxy in a Small Group of Galaxies. *John T. Stocke & Jack O. Burns.* 319, 671, 102-C8 (1987)

The X-Ray Spectra of the Extragalactic Sources in the *Einstein* Extended Medium-Sensitivity Survey. *Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, Giovanni Zamorani, & John T. Stocke.* 326, 680, 41-B3 (1988)

A Detailed Study of the Lynds 1551 Star Formation Region. *John T. Stocke, Patrick M. Hartigan, Stephen E. Strom, Karen M. Strom, Edwin R. Anderson, Lee W. Hartmann, & Scott J. Kenyon.* 68, 229, 26-D1 (1988)

No Evidence for Radio-quiet BL Lacertae Objects. *John T. Stocke, Simon L. Morris, Isabella Gioia, Tommaso Maccacaro, R. E. Schild, & A. Wolter.* 348, 141, 2-F11 (1990)

MS 1603.6+2600, an Unusual X-Ray Selected Binary System at High Galactic Latitude. *Simon L. Morris, James Liebert, John T. Stocke, Isabella M. Gioia, Rudy E. Schild, & Anna Wolter.* 365, 686, 216-G1 (1990)

STOCKMAN, H. S. The Optical Continua of Magnetic Variables. *Gary D. Schmidt, H. S. Stockman, & S. A. Grandi.* 300, 804, 12-A6 (1986)

The New Magnetic White Dwarf PG 1031+234: Polarization and Field Structure at More than 500 Million Gauss. *Gary D. Schmidt, Steven C. West, James Liebert, Richard F. Green, & H. S. Stockman.* 309, 218, 122-C11 (1986)

Surveys of Fields around Quasars. III. Intermediate-Redshift Quasars: Catalog and Background Galaxy Counts. *H. K. C. Yee, Richard F. Green, & H. S. Stockman.* 62, 681, 40-A13 (1986)

V1500 Cygni: Discovery of a Magnetic Nova. *H. S. Stockman, Gary D. Schmidt, & D. Q. Lamb.* 332, 282, 126-C4 (1988)

An Optical Polarization Survey of the Palomar-Green Bright Quasar Sample. *Graham Berriman, Gary D. Schmidt, S. C. West, & H. S. Stockman.* 74, 869, 43-E5 (1990)

STOCKTON, ALAN. The Structure of the Cygnus A Radio Galaxy. *Michael J. Pierce & Alan Stockton.* 305, 204, 69-B8 (1986)

Extended Emission-Line Regions around QSOs. *Alan Stockton & John W. MacKenty.* 316, 584, 58-D3 (1987)

STOEGER, W. R. Active Galactic Nuclei. III. Accretion Flow in an Externally Supplied Cluster of Black Holes. *A. G. Pacholczyk, T. F. Stepinski, & W. R. Stoeger.* 343, 563, 126-C1 (1989)

STOEGER, W. R., S.J. Active Galactic Nuclei. I. Central Source as a Cluster of Accreting Black Holes. *A. G. Pacholczyk & W. R. Stoeger, S.J.* 303, 76, 41-G7 (1986)

STOKER, P. H. Spectra of Relativistic Solar Proton Ground-Level Events Recorded at Sanae, Antarctica. *P. H. Stoker & S. Makgamathe.* 73, 263, 21-C9 (1990)

STOKES, G. H. Results of Two Surveys for Fast Pulsars. *G. H. Stokes, D. J. Segelstein, J. H. Taylor, & R. J. Dewey.* 311, 694, 155-D1 (1986)

Period Derivatives and Improved Parameters for 66 Pulsars. *R. J. Dewey, J. H. Taylor, C. M. Maguire, & G. H. Stokes.* 332, 762, 132-G1 (1988)

STOLOVY, S. R. VLA Observations of the $^{15}NH_3$ Maser Associated with NGC 7538 IRS 1. *K. J. Johnston, S. R. Stolovy, T. L. Wilson, C. Henkel, & R. Mauersberger.* 343, L41, 132-B5 (1989)

STONE, E. C. Cosmic-Ray Energy Spectra between 10 and Several Hundred GeV per Atomic Mass Unit for Elements from $_{18}$Ar to $_{28}$Ni: Results from *HEAO 3. W. R. Binns, T. L. Garrard, M. H. Israel, Michael D. Jones, M. P. Kamionkowski, J. Klarmann, E. C. Stone, & C. J. Waddington.* 324, 1106, 15-F3 (1988)

Evidence for Anomalous Cosmic-Ray Hydrogen. *E. R. Christian, A. C. Cummings, & E. C. Stone.* 334, L77, 169-D1 (1988)

An Imaging Observation of SN 1987A at Gamma-Ray Energies. *W. R. Cook, D. M. Palmer, T. A. Prince, S. M. Schindler, C. H. Starr, & E. C. Stone.* 334, L87, 169-D12 (1988)

Isotope Abundances of Solar Coronal Material Derived from Solar Energetic Particle Measurements. *R. A. Mewaldt & E. C. Stone.* 337, 959, 30-F6 (1989)

Abundances of Ultraheavy Elements in the Cosmic Radiation: Results from *HEAO 3. W. R. Binns, T. L. Garrard, P. S. Gibner, M. H. Israel, M. P. Kertzman, J. Klarmann, B. J. Newport, E. C. Stone, & C. J. Waddington.* 346, 997, 179-E1 (1989)

STONE, J. L. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

STONE, JOHN L., JR. Collimated Nuclear Ejection of Radio-Emitting Plasma in the Seyfert Galaxy NGC 4388. *John L. Stone, Jr., Andrew S. Wilson, & Martin J. Ward.* 330, 105, 91-B9 (1988)

STONE, R. G. Solar Filament Eruptions and Energetic Particle Events. *S. W. Kahler, E. W. Cliver, H. V. Cane, R. E. McGuire, R. G. Stone, & N. R. Sheeley, Jr.* 302, 504, 33-F9 (1986)

The Identification of Solar ^{3}He-rich Events and the Study of Particle Acceleration at the Sun. *D. V. Reames & R. G. Stone.* 308, 902, 118-G3 (1986)

X-Ray and Radio Properties of Solar ^{3}He-rich Events. *D. V. Reames, B. R. Dennis, R. G. Stone, & R. P. Lin.* 327, 998, 59-F14 (1988)

STONE, REMINGTON P. S. Spectroscopy and Photometry of Elliptical Galaxies. III. *UBV* Aperture Photometry, CCD Photometry, and Magnitude-related Parameters. *David Burstein, Roger L. Davies, Alan Dressler, S. M. Faber, Remington P. S. Stone, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 601, 26-C7 (1987)

STORCHI-BERGMANN, T. Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

STOREY, J. R. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

STOREY, J. W. V. Far-Infrared Measurements of N/O in H II Regions: Evidence for Enhanced CN Process Nucleosynthesis in the Inner Galaxy. *D. F. Lester, H. L. Dinerstein, M. W. Werner, D. M. Watson, R. Genzel, & J. W. V. Storey.* 320, 573, 116-A1 (1987)

Molecular Hydrogen Line Emission in Seyfert Galactic Nuclei. *J. Fischer, T. R. Geballe, Howard A. Smith, M. Simon, & J. W. V. Storey.* 320, 667, 117-B2 (1987)

Orion B (NGC 2024). I. VLA and IR Observations of the H II Region. *Peter J. Barnes, Richard M. Crutcher, J. H. Bieging, J. W. V. Storey, & S. P. Willner.* 342, 883, 113-C3 (1989)

STOTHERS, RICHARD B. RR Lyrae Stars: A Theoretical Study of Bailey Type *c* Variables. *Olenka Hubickyj & Richard B. Stothers.* 309, 122, 121-C13 (1986)

Second-Overtone Models of RR Lyrae Stars. *Richard B. Stothers.* 319, 260, 95-G5 (1987)

Classical Bump Cepheids: Reconciliation of Theory with Observations. *T. Richard Carson & Richard B. Stothers.* 328, 196, 64-B5 (1988)

Abundance Effects on the Cepheid Distance Scale. *Richard B. Stothers.* 329, 712, 84-E1 (1988)

Limit on Overshooting from the Convective Core in Upper Main-Sequence Stars. *Richard B. Stothers & Chao-wen Chin.* 348, L21, 6-C1 (1990)

Tables and Intercomparisons of Evolutionary Sequences of Models for Massive Stars. *Chao-wen Chin & Richard B. Stothers.* 73, 821, 29-C11 (1990)

STOUT, D. B. Electron Capture and β-Decay in Presupernova Stars. *M. B. Aufderheide, G. E. Brown, T. T. S. Kuo, D. B. Stout, & P. Vogel.* 362, 241, 172-B9 (1990)

STOUT, NATALIE. Circumstellar Gas Associated with HL Tauri: Evidence for a Remnant Infalling Envelope. *Gary L. Grasdalen, Gregory Sloan, Natalie Stout, Stephen E. Strom, & Alan D. Welty.* 339, L37, 58-D5 (1989)

STOVER, R. J. Stark-broadened Emission Lines in the Accretion Disks of Cataclysmic Variables. *D. N. C. Lin, R. E. Williams, & R. J. Stover.* 327, 234, 49-E1 (1988)

STOVER, RICHARD J. On the Discordant Measurements of the Radial Velocity Curve of the Late-Type Star in the Dwarf Nova SS Cygni. *Edward L. Robinson, E.-H. Zhang, & Richard J. Stover.* 305, 732, 77-A1 (1986)

STRAKA, W. C. A Comparison of High-Resolution Radio and Optical Data for the Northeast Region of the Cygnus Loop. *W. C. Straka, J. R. Dickel, W. P. Blair, & R. A. Fesen.* 306, 266, 84-C2 (1986)

STRANIERO, OSCAR. Isochrones for Hydrogen-burning Globular Cluster Stars. I. The Metallicity Range $-2 \leq$ [Fe/H] ≤ -1. *Alessandro Chieffi & Oscar Straniero.* 71, 47, 33-G1 (1989)

The Evolution of Intermediate-Mass Stars through the H- and He-burning Phases. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 74, 463, 36-F11 (1990)

STRASSLER, M. On the Generation of a Bubbly Universe: A Quantitative Assessment of the CfA Slice. *J. P. Ostriker & M. Strassler.* 338, 579, 41-C1 (1989)

STRASSMEIER, KLAUS G. Photometric Variability of Chromospherically Active Stars. I. The Constant Stars. *Klaus G. Strassmeier & Douglas S. Hall.* 67, 439, 18-A7 (1988)

Photometric Variability in Chromospherically Active Stars. II. The Rapidly Rotating Single Stars. *Klaus G. Strassmeier & Douglas S. Hall.* 67, 453, 18-C1 (1988)

Photometric Variability in Chromospherically Active Stars. III. The Binary Stars. *Klaus G. Strassmeier, Douglas S. Hall, Louis J. Boyd, & Russell M. Genet.* 69, 141, 2-G3 (1989)

Chromospheric Ca II H and K and Hα Emission in Single and Binary Stars of Spectral Types F6–M2. *Klaus G. Strassmeier, Francis C. Fekel, Bernard W. Bopp, Robert C. Dempsey, & Gregory W. Henry.* 72, 191, 4-D7 (1990)

Photometric and Spectroscopic Modeling of Starspots on the RS Canum Venaticorum Binary HD 26337. *Klaus G. Strassmeier.* 348, 682, 11-B3 (1990)

HR 1362: A Test Case for Stellar Dynamo Theories. *Klaus G. Strassmeier, Douglas S. Hall, William S. Barksdale, Anthony T. Jusick, & Gregory W. Henry.* 350, 367, 29-E3 (1990)

STRATTON, B. C. A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0$(2–2) Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

Laboratory Study of the Spectrum of Highly Ionized Calcium in the 100–250 Å Range Applied to Solar Flare Diagnostics. *S. Lippmann, M. Finkenthal, L. K. Huang, H. W. Moos, B. C. Stratton, T. L. Yu, A. K. Bhatia, & W. L. Hodge.* 316, 819, 61-A11 (1987)

STRAUSS, H. R. Current-driven Resistive Ballooning Modes in Axially Bounded Solar Flare Plasmas. *Niels F. Otani & H. R. Strauss.* 325, 468, 24-C10 (1988)

Turbulent Reconnection. *H. R. Strauss.* 326, 412, 36-G1 (1988)

Current Sheets in the Solar Corona. *H. R. Strauss & N. F. Otani.* 326, 418, 36-G7 (1988)

Computer Simulation of Alfvén Resonance in a Cylindrical, Axially Bounded Flux Tube. *H. R. Strauss & William S. Lawson.* 346, 1035, 180-A1 (1989)

STRAUSS, MICHAEL A. Extended Lyman-α Emission in 3C 326.1: A 100 Kiloparsec Cloud of Ionized Gas at a Redshift of 1.82. *Patrick J. McCarthy, Hyron Spinrad, S. Djorgovski, Michael A. Strauss, Wil van Breugel, & James Liebert.* 319, L39, 107-B2 (1987)

Cosmological Parameters from the *IRAS* Galaxy Sample. *Jens Verner Villumsen & Michael A. Strauss.* 322, 37, 138-D1 (1987)

Soft X-Ray Variability and the Covering Fraction of Active Galactic Nuclei. *Kenneth W. Wachter, Michael A. Strauss, & Alexei V. Filippenko.* 330, 91, 91-A9 (1988)

A Newly Discovered *IRAS* QSO Close to the Galactic Plane. *Michael A. Strauss, S. D. Kirhakos, & Amos Yahil.* 332, L45, 137-A10 (1988)

On the Universality of the Two-Point Galaxy Correlation Function. *Marc Davis, Avery Meiksin, Michael A. Strauss, L. Nicolaci da Costa, & Amos Yahil.* 333, L9, 144-B1 (1988)

Cosmological Velocity Correlations: Observations and Model Predictions. *Krzysztof Górski, Marc Davis, Michael A. Strauss, Simon D. M. White, & Amos Yahil.* 344, 1, 133-A9 (1989)

A Redshift Survey of IRAS Galaxies. I. Sample Selection. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 361, 49, 157-E11 (1990)

STRAUSZ, S. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

STRAW, S. M. A Near-Infrared Study of the NGC 6334-IV Region. *P. M. Harvey, A. R. Hyland, & S. M. Straw.* 317, 173, 65-G8 (1987)

STRAW, STEVEN. An Active Star Formation Site in RCW 108. *Steven Straw, A. R. Hyland, Terry J. Jones, Paul M. Harvey, Bruce A. Wilking, & Marshall Joy.* 314, 283, 31-B12 (1987)

STRAW, STEVEN M. The Centers of Star Formation in NGC 6334 and Their Stellar Mass Distributions. *Steven M. Straw, A. R. Hyland, & Peter J. McGregor.* 69, 99, 2-C1 (1989)

Global Aspects of the NGC 6334 Star Formation Complex: An Infrared Survey. *Steven M. Straw & A. R. Hyland.* 340, 318, 71-A5 (1989)

Extensive Shocked Molecular Hydrogen Emission in NGC 6334. *Steven M. Straw & A. R. Hyland.* 342, 876, 113-B10 (1989)

STREATER, A. Transfer and Redistribution of Polarized Light in Resonance Lines. I. Quantum Formulation with Collisions. *A. Streater, J. Cooper, & D. E. Rees.* 335, 503, 176-D3 (1988)

STREITMATTER, ROBERT E. Measurement of the Cosmic-Ray Iron Spectrum between 60 and 200 GeV per Nucleon. *Joseph A. Esposito, Robert E. Streitmatter, V. K. Balasubrahmanyan, & Jonathan F. Ormes.* 351, 459, 45-G1 (1990)

STRICKLAND, D. J. The Ultraviolet Variability of HD 45166 (qWR+B8 V): Evidence for Stellar Wind Radiative Instabilities. *Allan J. Willis, Ian D. Howarth, D. J. Strickland, & S. R. Heap.* 347, 413, 187-C1 (1989)

STRICKLAND, J. C. Primordial Inhomogeneities in the Expanding Universe. IV. Peculiar Velocity Profiles at Late Times. *Donald W. Olson & J. C. Strickland.* 359, 263, 139-C9 (1990)

STRINGFELLOW, GUY S. SN 1961V: An Extragalactic Eta Carinae Analog? *Robert W. Goodrich, Guy S. Stringfellow, G. Donald Penrod, & Alexei V. Filippenko.* 342, 908, 113-E3 (1989)

Is There a Classical Hyades Lithium Problem? *Fritz J. Swenson, Guy S. Stringfellow, & John Faulkner.* 348, L33, 6-D3 (1990)

Brown Dwarfs as Close Companions to White Dwarfs. *Guy S. Stringfellow, David C. Black, & Peter Bodenheimer.* 349, L59, 24-D1 (1990)

STRITTMATTER, P. A. Diameter and Limb-darkening Measures for Alpha Orionis. *A. Y. S. Cheng, E. K. Hege, E. N. Hubbard, L. Goldberg, P. A. Strittmatter, & W. J. Cocke.* 309, 737, 129-C11 (1986)

Two-dimensional Images of Alpha Orionis. *J. C. Hebden, J. C. Christou, A. Y. S. Cheng, E. K. Hege, P. A. Strittmatter, J. M. Beckers, & H. P. Murphy.* 309, 745, 129-D5 (1986)

Synchrotron Emission from Shock Waves in Active Galactic Nuclei. *P. L. Biermann & P. A. Strittmatter.* 322, 643, 146-G5 (1987)

STRITTMATTER, PETER A. High-Resolution Radio Observations of the Most Luminous Quasar. *Helmut Kühr, John T. Stocke, Peter A. Strittmatter, Norbert Bartel, Andreas Eckart, Cornelius Schalinski, Arno Witzel, & Peter Biermann.* 302, 52, 28-E5 (1986)

STROBEL, D. F. Detection of Neutral Oxygen and Sulfur Emissions near Io Using *IUE*. *G. E. Ballester, H. W. Moos, P. D. Feldman, D. F. Strobel, M. E. Summers, J.-L. Bertaux, T. E. Skinner, M. C. Festou, & J. H. Lieske.* 319, L33, 100-D1 (1987)

The Structure of Io's Thermal Corona and Implications for Atmospheric Escape. *M. E. Summers, D. F. Strobel, Y. L. Yung, J. T. Trauger, & F. Mills.* 343, 468, 123-G5 (1989)

STROBEL, DARRELL F. Photochemistry of the Atmosphere of Uranus. *Michael E. Summers & Darrell F. Strobel.* 346, 495, 172-C9 (1989)

STROBEL, KEVIN. Spectrophotometric Standards. *Philip Massey, Kevin Strobel, Jeannette V. Barnes, & Edwin Anderson.* 328, 315, 65-D8 (1988)

STROM, K. M. Extended Far-Infrared Emission Associated with Mass Outflows from Young Stars: L1551 IRS 5. *S. Edwards, S. E. Strom, R. L. Snell, T. H. Jarrett, C. A. Beichman, & K. M. Strom.* 307, L65, 107-C10 (1986)

High-Resolution Images of the L1551 Bipolar Outflow: Evidence for an Expanding, Accelerated Shell. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, F. P. Schloerb, K. M. Strom, & G. L. Grasdalen.* 319, 742, 103-B6 (1987)

Pre–Main-Sequence Disk Accretion in Z Canis Majoris. *L. Hartmann, S. J. Kenyon, R. Hewett, S. Edwards, K. M. Strom, S. E. Strom, & J. R. Stauffer.* 338, 1001, 46-C5 (1989)

STROM, KAREN M. A Study of the Morphology and Kinematics of the Dense Gas Associated with Star-forming Regions. *Mark H. Heyer, Ronald L. Snell, Paul F. Goldsmith, Stephen E. Strom, & Karen M. Strom.* 308, 134, 109-E5 (1986)

Optical Manifestations of Mass Outflows from Young Stars: An Atlas of CCD Images of Herbig-Haro Objects. *Karen M. Strom, Stephen E. Strom, Sidney C. Wolff, Jeff Morgan, & Michael Wenz.* 62, 39, 31-D1 (1986)

Forbidden Line and Hα Profiles in T Tauri Star Spectra: A Probe of Anisotropic Mass Outflows and Circumstellar Disks. *Suzan Edwards, Sylvie Cabrit, Stephen E. Strom, Ingeborg Heyer, Karen M. Strom, & E. Anderson.* 321, 473, 127-C10 (1987)

The Magnetic Evolution of the Taurus Molecular Clouds. I. Large-Scale Properties. *Mark H. Heyer, Frederick J. Vrba, Ronald L. Snell, F. P. Schloerb, Stephen E. Strom, Paul F. Goldsmith, & Karen M. Strom.* 321, 855, 133-G9 (1987)

A Detailed Study of the Lynds 1551 Star Formation Region. *John T. Stocke, Patrick M. Hartigan, Stephen E. Strom, Karen M. Strom, Edwin R. Anderson, Lee W. Hartmann, & Scott J. Kenyon.* 68, 229, 26-D1 (1988)

A Study of the Stellar Population in the Lynds 1641 Dark Cloud. I. The *IRAS* Catalog Sources. *Karen M. Strom, Goeffrey Newton, Stephen E. Strom, Robert L. Seaman, Luis Carrasco, Irene Cruz-Gonzalez, Alfonso Serrano, & Gary L. Grasdalen.* 71, 183, 37-C2 (1989)

A Study of the Stellar Population in the Lynds 1641 Dark Cloud: Deep Near-Infrared Imaging. *Karen M. Strom, Michael Margulis, & Stephen E. Strom.* 345, L79, 165-B5 (1989)

A Study of the Stellar Population in the Lynds 1641 Dark Cloud: A Possible Dense Cluster Associtated with IRAS 05338–0624. *Karen M. Strom, Michael Margulis, & Stephen E. Strom.* 346, L33, 173-D6 (1989)

Further Evidence for Differential Rotation in V1057 Cygni. *Alan D. Welty, Stephen E. Strom, Karen M. Strom, Lee W. Hartmann, Scott J. Kenyon, Gary L. Grasdalen, & John R. Stauffer.* 349, 328, 17-G12 (1990)

Forbidden-Line Emission and Infrared Excesses in T Tauri Stars: Evidence for Accretion-driven Mass Loss? *Sylvie Cabrit, Suzan Edwards, Stephen E. Strom, & Karen M. Strom.* 354, 687, 84-G3 (1990)

A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)

Radio Continuum Emission from Young Stellar Objects in L1641. *James A. Morgan, Ronald L. Snell, & Karen M. Strom.* 362, 274, 172-E9 (1990)

STROM, R. Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)

STROM, R. G. 1928+738: A Superluminal Source with Large-Scale Structure. *K. J. Johnston, R. S. Simon, A. Eckart, P. Biermann, C. Schalinski, A. Witzel, & R. G. Strom.* 313, L85, 27-D11 (1987)

STROM, RICHARD G. Pulsar-like Emission from the Supernova Remnant CTB 80. *Richard G. Strom.* 319, L103, 107-F13 (1987)

STROM, S. E. Extended Far-Infrared Emission Associated with Mass Outflows from Young Stars: L1551 IRS 5. *S. Edwards, S. E. Strom,*

R. L. Snell, T. H. Jarrett, C. A. Beichman, & K. M. Strom. 307, L65, 107-C10 (1986)
CS Observations of L1551: No Rotating Disk. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, & G. L. Grasdalen.* 317, L95, 78-D13 (1987)
High-Resolution Images of the L1551 Bipolar Outflow: Evidence for an Expanding, Accelerated Shell. *G. H. Moriarty-Schieven, R. L. Snell, S. E. Strom, F. P. Schloerb, K. M. Strom, & G. L. Grasdalen.* 319, 742, 103-B6 (1987)
Pre–Main-Sequence Disk Accretion in Z Canis Majoris. *L. Hartmann, S. J. Kenyon, R. Hewett, S. Edwards, K. M. Strom, S. E. Strom, & J. R. Stauffer.* 338, 1001, 46-C5 (1989)
STROM, STEPHEN E. A Study of the Morphology and Kinematics of the Dense Gas Associated with Star-forming Regions. *Mark H. Heyer, Ronald L. Snell, Paul F. Goldsmith, Stephen E. Strom, & Karen M. Strom.* 308, 134, 109-E5 (1986)
Optical Manifestations of Mass Outflows from Young Stars: An Atlas of CCD Images of Herbig-Haro Objects. *Karen M. Strom, Stephen E. Strom, Sidney C. Wolff, Jeff Morgan, & Michael Wenz.* 62, 39, 31-D1 (1986)
Forbidden Line and Hα Profiles in T Tauri Star Spectra: A Probe of Anisotropic Mass Outflows and Circumstellar Disks. *Suzan Edwards, Sylvie Cabrit, Stephen E. Strom, Ingeborg Heyer, Karen M. Strom, & E. Anderson.* 321, 473, 127-C10 (1987)
The Magnetic Evolution of the Taurus Molecular Clouds. I. Large-Scale Properties. *Mark H. Heyer, Frederick J. Vrba, Ronald L. Snell, F. P. Schloerb, Stephen E. Strom, Paul F. Goldsmith, & Karen M. Strom.* 321, 855, 133-G9 (1987)
A Detailed Study of the Lynds 1551 Star Formation Region. *John T. Stocke, Patrick M. Hartigan, Stephen E. Strom, Karen M. Strom, Edwin R. Anderson, Lee W. Hartmann, & Scott J. Kenyon.* 68, 229, 26-D1 (1988)
Near-Infrared Imaging of Lynds 1551 IRS 5. *Klaus-Werner Hodapp, Richard W. Capps, Stephen E. Strom, Luis Salas, & Gary L. Grasdalen.* 335, 814, 181-E8 (1988)
Circumstellar Gas Associated with HL Tauri: Evidence for a Remnant Infalling Envelope. *Gary L. Grasdalen, Gregory Sloan, Natalie Stout, Stephen E. Strom, & Alan D. Welty.* 339, L37, 58-D5 (1989)
A Study of the Stellar Population in the Lynds 1641 Dark Cloud. I. The *IRAS* Catalog Sources. *Karen M. Strom, Goeffrey Newton, Stephen E. Strom, Robert L. Seaman, Luis Carrasco, Irene Cruz-Gonzalez, Alfonso Serrano, & Gary L. Grasdalen.* 71, 183, 37-C2 (1989)
A Study of the Stellar Population in the Lynds 1641 Dark Cloud: Deep Near-Infrared Imaging. *Karen M. Strom, Michael Margulis, & Stephen E. Strom.* 345, L79, 165-B5 (1989)
A Study of the Stellar Population in the Lynds 1641 Dark Cloud: A Possible Dense Cluster Associtated with IRAS 05338–0624. *Karen M. Strom, Michael Margulis, & Stephen E. Strom.* 346, L33, 173-D6 (1989)
Further Evidence for Differential Rotation in V1057 Cygni. *Alan D. Welty, Stephen E. Strom, Karen M. Strom, Lee W. Hartmann, Scott J. Kenyon, Gary L. Grasdalen, & John R. Stauffer.* 349, 328, 17-G12 (1990)
Correlations of Optical and Infrared Excesses in T Tauri Stars. *Patrick Hartigan, Lee Hartmann, Scott J. Kenyon, Stephen E. Strom, & Michael F. Skrutskie.* 354, L25, 80-C11 (1990)
Forbidden-Line Emission and Infrared Excesses in T Tauri Stars: Evidence for Accretion-driven Mass Loss? *Sylvie Cabrit, Suzan Edwards, Stephen E. Strom, & Karen M. Strom.* 354, 687, 84-G3 (1990)
A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)
STRONG, A. W. Analysis of the *COS B* Data for Evidence of Linear Polarization of Vela Pulsar Gamma Rays. *J. R. Mattox, H. A. Mayer-Hasselwander, & A. W. Strong.* 363, 270, 185-D9 (1990)
STRONG, K. T. Two-Component Analysis of the Decay of Soft X-Ray Line Emission during Solar Flares. *P. L. Bornmann & K. T. Strong.* 333, 1014, 151-E1 (1988)
Microwave and X-Ray Observations of a Major Confined Solar Flare. *E. J. Schmahl, J. T. Schmelz, J. L. R. Saba, K. T. Strong, & M. R. Kundu.* 358, 654, 131-F2 (1990)
STRONG, KEITH T. Simultaneous *SMM* Flat Crystal Spectrometer and Very Large Array Observations of Solar Active Regions. *Kenneth R. Lang, Robert F. Willson, Kermit L. Smith, & Keith T. Strong.* 322, 1035, 151-C4 (1987)
Solar Active Region Physical Parameters Inferred from a Thermal Cyclotron Line and Soft X-Ray Spectral Lines. *Kenneth R. Lang, Robert F. Willson, Kermit L. Smith, & Keith T. Strong.* 322, 1044, 151-D3 (1987)
Explosive Plasma Flows in a Solar Flare. *Dominic M. Zarro, Richard C. Canfield, Keith T. Strong, & Thomas R. Metcalf.* 324, 582, 7-E12 (1988)
Active Region Coronal Loops: Structure and Variability. *Bernhard M. Haisch, Keith T. Strong, Richard A. Harrison, & G. A. Gary.* 68, 371, 28-E1 (1988)
STRUBLE, MITCHELL F. A Compilation of Redshifts and Velocity Dispersions for Abell Clusters. *Mitchell F. Struble & Herbert J. Rood.* 63, 543, 9-C7 (1987)
A Catalog of Morphological Properties of the 2712 Abell Clusters. *Mitchell F. Struble & Herbert J. Rood.* 63, 555, 9-D4 (1987)
Alignment Statistics of Clusters with Their Brightest Members at Bright and Faint Isophotes. *Mitchell F. Struble.* 317, 668, 73-D2 (1987)
Results from a Visual Survey of All 2712 Abell Clusters. *Mitchell F. Struble & Herbert J. Rood.* 323, 468, 159-F4 (1987)
Optical Discovery of Intracluster Matter on the Palomar Observatory Sky Survey: The Star Pile in A545. *Mitchell F. Struble.* 330, L25, 96-E4 (1988)
STRUCK-MARCELL, CURTIS. A Physical Mechanism for Bursts of Star Formation. *John M. Scalo & Curtis Struck-Marcell.* 301, 77, 14-G2 (1986)
Star Formation Rates in Ring Galaxies from *IRAS* Observations. *P. N. Appleton & Curtis Struck-Marcell.* 312, 566, 9-A12 (1987)
Continuum Models for Gas in Disturbed Galaxies. III. Bifurcations and Chaos in a Deterministic Model for Bursts of Star Formation. *Curtis Struck-Marcell & John M. Scalo.* 64, 39, 17-D11 (1987)
Models of Ring Galaxies. I. The Growth and Disruption of Clouds in the Expanding Density Wave. *P. N. Appleton & Curtis Struck-Marcell.* 318, 103, 80-A14 (1987)
Models of Ring Galaxies. II. Extended Starbursts. *Curtis Struck-Marcell & P. N. Appleton.* 323, 480, 159-G5 (1987)
SiO Masers in Late-Type Giant Stars—Jovian Planets Engulfed. *Curtis Struck-Marcell.* 330, 986, 103-D3 (1988)
The Varieties of Symmetric Stellar Rings and Radial Caustics in Galaxy Disks. *Curtis Struck-Marcell & Pnina Lotan.* 358, 99, 123-C1 (1990)
STÜWE, J. A. The Projected Dark Cloud Distribution of the Milky Way. *J. V. Feitzinger & J. A. Stüwe.* 305, 534, 73-B4 (1986)
STURCH, C. R. Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)
STURCH, CONRAD R. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wisniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)
STURROCK, P. A. Force-free Magnetic Fields: The Magneto-frictional Method. *W.-H. Yang, P. A. Sturrock, & S. K. Antiochos.* 309, 383, 124-B2 (1986)
Coronal Magnetic Fields Produced by Photospheric Shear. *J. A. Klimchuk, P. A. Sturrock, & W.-H. Yang.* 335, 456, 175-F11 (1988)
Force-free Magnetic Fields: Is There a "Loss of Equilibrium"? *J. A. Klimchuk & P. A. Sturrock.* 345, 1034, 163-D3 (1989)
Cascade Model of Gamma-Ray Bursts. *P. A. Sturrock, A. K. Harding, & J. K. Daugherty.* 346, 950, 179-A1 (1989)
Episodic Coronal Heating. *P. A. Sturrock, W. W. Dixon, J. A. Klimchuk, & S. K. Antiochos.* 356, L31, 103-D11 (1990)

STUTZKI, J. Aperture Synthesis Observations of the Circumnuclear Ring in the Galactic Center. *R. Güsten, R. Genzel, M. C. H. Wright, D. T. Jaffe, J. Stutzki, & A. I. Harris.* 318, 124, 80-C8 (1987)

Submillimeter and Far-Infrared Spectroscopy of M17 and S106: UV-heated, Quiescent Molecular Gas? *A. I. Harris, J. Stutzki, R. Genzel, J. B. Lugten, G. J. Stacey, & D. T. Jaffe.* 322, L49, 145-D6 (1987)

First Detection of HCN $J = 9–8$ (797 GHz) Line Emission: Very High Densities in the Orion Core. *J. Stutzki, R. Genzel, A. I. Harris, J. Herman, & D. T. Jaffe.* 330, L125, 105-A9 (1988)

Submillimeter and Far-Infrared Line Observations of M17 SW: A Clumpy Molecular Cloud Penetrated by Ultraviolet Radiation. *J. Stutzki, G. J. Stacey, R. Genzel, A. I. Harris, D. T. Jaffe, & J. B. Lugten.* 332, 379, 127-C6 (1988)

High Spatial Resolution Observations of Neutral Atomic Carbon in the Molecular Clouds M17 and W51. *R. Genzel, A. I. Harris, D. T. Jaffe, & J. Stutzki.* 332, 1049, 136-A7 (1988)

First Detection of SO_2 and CH_3OH Emission and One Unidentified Line near 800 GHz. *J. Stutzki, R. Genzel, U. U. Graf, A. I. Harris, & D. T. Jaffe.* 340, L37, 75-F5 (1989)

Strong, Spatially Extended CO 7→6 Emission from Luminous Cloud Cores: W52 and DR 21. *D. T. Jaffe, R. Genzel, A. I. Harris, J. B. Lugten, G. J. Stacey, & J. Stutzki.* 344, 265, 136-C10 (1989)

Warm Dense Gas in the Reflection Nebula NGC 2023. *D. T. Jaffe, R. Genzel, A. I. Harris, J. E. Howe, G. J. Stacey, & J. Stutzki.* 353, 193, 64-E1 (1990)

Far-Infrared, Submillimeter, and Millimeter Spectroscopy of the Galactic Center: Radio Arc and +20/+50 Kilometer per Second Clouds. *R. Genzel, G. J. Stacey, A. I. Harris, C. H. Townes, N. Geis, U. U. Graf, A. Poglitsch, & J. Stutzki.* 356, 160, 101-A9 (1990)

High Spatial Resolution Isotopic CO and CS Observations of M17 SW: The Clumpy Structure of the Molecular Cloud Core. *J. Stutzki & R. Güsten.* 356, 513, 106-F1 (1990)

Detection of an Isotopic Short Submillimeter CO Line: Column Densities of Warm Gas in Molecular Clouds. *U. U. Graf, R. Genzel, A. I. Harris, R. E. Hills, A. P. G. Russell, & J. Stutzki.* 358, L49, 133-C8 (1990)

Molecular Absorption Lines toward the Nucleus of Centaurus A. *A. Eckart, M. Cameron, R. Genzel, J. M. Jackson, H. Rothermel, J. Stutzki, G. Rydbeck, & T. Wiklind.* 365, 522, 214-F7 (1990)

SU, BUMEI. Superluminal Motion of the Radio Core of BL Lacertae: 1980.4–1988.3. *R. L. Mutel, R. B. Phillips, Bumei Su, & R. R. Bucciferro.* 352, 81, 51-B1 (1990)

A Magnetospheric Model for Radio Emission from Active, Late-Type Binary Stars. *Dirk H. Morris, Robert L. Mutel, & Bumei Su.* 362, 299, 172-G11 (1990)

SUBRAHMANYAN, R. On the Origin of the Diffuse X-Ray Background. *R. Subrahmanyan & R. Cowsik.* 347, 1, 182-B1 (1989)

SUBRAMANIAN, K. The Gravitational Lens System 2016+112 Revisited. *D. Narasimha, K. Subramanian, & S. M. Chitre.* 315, 434, 45-D11 (1987)

SUBRAMANIAN, KANDASWAMY. The Intensity Ratio in Different Wave Bands between Images of Gravitationally Lensed Quasars as a Probe of Dark Matter. *Kandaswamy Subramanian & S. M. Chitre.* 313, 13, 15-B5 (1987)

SUDA, T. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

SUDAN, R. N. Energy Dissipation of Alfvén Wave Packets Deformed by Irregular Magnetic Fields in Solar-Coronal Arches. *Philippe L. Similon & R. N. Sudan.* 336, 442, 6-F3 (1989)

SUENRAM, R. D. Laboratory Measurement of the $1_{01}–0_{00}$ Transition and Electric Dipole Moment of SiC_2. *R. D. Suenram, F. J. Lovas, & K. Matsumura.* 342, L103, 117-G1 (1989)

SUESS, S. T. Radiatively Driven Winds from Magnetic, Fast-rotating Stars: Wolf-Rayet Stars? *Steven Nerney & S. T. Suess.* 321, 355, 126-B3 (1987)

Magnetohydrodynamic Bending Waves in a Current Sheet. *Z. E. Musielak & S. T. Suess.* 330, 456, 95-D1 (1988)

Magnetohydrodynamic Instabilities in Coronal Arcades. *Chang-Hyuk An, S. T. Suess, & S. T. Wu.* 337, 989, 31-B1 (1989)

Propagating and Nonpropagating Compression Waves in an Isothermal Atmosphere with Uniform Horizontal Magnetic Field. *Z. E. Musielak, C.-H. An, R. L. Moore, & S. T. Suess.* 344, 478, 138-G10 (1989)

Reflection and Trapping of Transient Alfvén Waves Propagating in an Isothermal Atmosphere with Constant Gravity and Uniform Magnetic Field. *C.-H. An, Z. E. Musielak, R. L. Moore, & S. T. Suess.* 345, 597, 156-D9 (1989)

Reflection and Trapping of Alfvén Waves in a Spherically Symmetric Stellar Atmosphere. *C.-H. An, S. T. Suess, R. L. Moore, & Z. E. Musielak.* 350, 309, 28-G3 (1990)

SUGA, K. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

SUGIMOTO, DAIICHIRO. Relaxation Oscillations of a Helium-burning Star: Helium Shell Flashes Not Triggered by the Accumulation of a Critical Mass. *Icko Iben, Jr., Masayuki Y. Fujimoto, Daiichiro Sugimoto, & Shigeki Miyaji.* 304, 217, 56-C8 (1986)

SUGITANI, K. ^{13}CO in Orion. *K. Sugitani, Y. Fukui, H. Ogawa, & K. Kawabata.* 303, 667, 49-G3 (1986)

Discovery of Seven Bipolar Outflows by an Unbiased Survey. *Y. Fukui, K. Sugitani, H. Takaba, T. Iwata, A. Mizuno, H. Ogawa, & K. Kawabata.* 311, L85, 160-E12 (1986)

Star Formation in Bright-rimmed Globules: Evidence for Radiation-driven Implosion. *K. Sugitani, Y. Fukui, A. Mizuno, & N. Ohashi.* 342, L87, 117-E5 (1989)

SUGITANI, KOJI. High-Resolution CO Observations of NGC 1068. *Noboru Kaneko, Kazuhiko Morita, Yasuo Fukui, Koji Sugitani, Takahiro Iwata, Naomasa Nakai, Norio Kaifu, & Harvey S. Liszt.* 337, 691, 27-E7 (1989)

SUGIYAMA, N. Constraints on Cold Dark Matter–dominated Universes from Cosmic Background Radiation Anisotropies. *M. Fukugita, N. Sugiyama, & M. Umemura.* 358, 28, 122-D1 (1990)

SUGIYAMA, NAOSHI. Cosmic Microwave Anisotropies and Large-Scale Velocity Fields in Isocurvature Hot Dark Matter Models. *Naoshi Sugiyama, Misao Sasaki, & Kenji Tomita.* 338, L45, 49-B1 (1989)

Microwave Background Anisotropies and the Primordial Spectrum of Cosmological Density Fluctuations. *Yasushi Suto, Naoteru Gouda, & Naoshi Sugiyama.* 74, 665, 40-B1 (1990)

Constraints on Universe Models with Cosmological Constant from Cosmic Microwave Background Anisotropy. *Naoshi Sugiyama, Naoteru Gouda, & Misao Sasaki.* 365, 432, 213-D1 (1990)

SUH, KYUNG-WON. A Pulsation Phase-dependent Dust Shell Model of OH 26.5+0.6. *Kyung-Won Suh, Terry Jay Jones, & G. H. Bowen.* 358, 588, 130-G3 (1990)

SUKUMAR, S. Radio Emission from Supernova SN 1986J in NGC 891. *S. Sukumar & R. J. Allen.* 341, 883, 96-B3 (1989)

Wide-Field High-Resolution 327 MHz Radio Observations of X-Ray Globular Cluster Fields. *S. Sukumar & R. Cowsik.* 343, 718, 128-B10 (1989)

SULAK, L. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

SULENTIC, JACK W. VLA Mapping of the Region around NGC 4319. *Jack W. Sulentic.* 304, 617, 62-F13 (1986)

The Galaxy-Quasar Connection: NGC 4319 and Markarian 205. I. Direct Imagery. *Jack W. Sulentic & Halton Arp.* 319, 687, 102-D12 (1987)

The Galaxy-Quasar Connection: NGC 4319 and Markarian 205. II. Spectroscopy. *Jack W. Sulentic & Halton Arp.* 319, 693, 102-E10 (1987)

Properties of Dense Galaxy Groups and the Implications of Their Existence. *Jack W. Sulentic.* 322, 605, 146-D7 (1987)

Toward a Classification Scheme for Broad-Line Profiles in Active Galactic Nuclei. *Jack W. Sulentic.* 343, 54, 118-F8 (1989)

Internal Redshift Difference and Central Mass in QSOs. *Wei Zheng & Jack W. Sulentic.* 350, 512, 32-E13 (1990)

Implications of Arp 102B: Line Emission from an Accretion Disk? *Jack W. Sulentic, Massimo Calvani, Paolo Marziani, & Wei Zheng.* 355, L15, 92-B11 (1990)

A Double-Stream Model for Line Profiles. *Wei Zheng, Luc Binette, & Jack W. Sulentic.* 365, 115, 207-D11 (1990)

SULKANEN, M. E. Theory of Axisymmetric Magnetohydrodynamic Flows: Disks. *R. V. E. Lovelace, C. Mehanian, C. M. Mobarry, & M. E. Sulkanen.* 62, 1, 31-A5 (1986)

Self-collimated Electromagnetic Jets from Magnetized Accretion Disks. *R. V. E. Lovelace, J. C. L. Wang, & M. E. Sulkanen.* 315, 504, 46-C1 (1987)

Self-collimated Electromagnetic Jets from Magnetized Accretion Disks: The Even-Symmetry Case. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 355, 38, 87-D12 (1990)

SULKANEN, MARTIN E. Low-Temperature Transonic Cooling Flows in Galaxy Clusters. *Martin E. Sulkanen, Jack O. Burns, & Michael L. Norman.* 344, 604, 142-A8 (1989)

Pulsar Magnetospheres with Jets. *Martin E. Sulkanen & Richard V. E. Lovelace.* 350, 732, 35-B6 (1990)

SULLIVAN, D. J. LB 1800: A Bright Eclipsing Cataclysmic Variable and a Transient X-Ray Source. *D. A. H. Buckley, D. J. Sullivan, R. A. Remillard, I. R. Tuohy, & M. Clark.* 355, 617, 96-C1 (1990)

SULLIVAN, JAMES D. An Upper Limit to X-Ray Emission from Saturn. *David A. Gilman, Kevin C. Hurley, Frederick D. Seward, Herbert W. Schnopper, James D. Sullivan, & Albert E. Metzger.* 300, 453, 6-A9 (1986)

SUMMERS, DANNY. Theory of Centrifugally Driven Magnetospheric Diffusion. *Danny Summers, Richard M. Thorne, & Yi Mei.* 328, 358, 66-B1 (1988)

SUMMERS, M. E. Detection of Neutral Oxygen and Sulfur Emissions near Io Using *IUE*. *G. E. Ballester, H. W. Moos, P. D. Feldman, D. F. Strobel, M. E. Summers, J.-L. Bertaux, T. E. Skinner, M. C. Festou, & J. H. Lieske.* 319, L33, 100-D1 (1987)

The Structure of Io's Thermal Corona and Implications for Atmospheric Escape. *M. E. Summers, D. F. Strobel, Y. L. Yung, J. T. Trauger, & F. Mills.* 343, 468, 123-G5 (1989)

SUMMERS, MICHAEL E. Photochemistry of the Atmosphere of Uranus. *Michael E. Summers & Darrell F. Strobel.* 346, 495, 172-C9 (1989)

SUMNER, T. J. Hard X-Ray Spectrum of Supernova 1987A on Day 407. *P. Ubertini, A. Bazzano, R. Sood, R. Staubert, T. J. Sumner, & G. Frye.* 337, L19, 25-B11 (1989)

SUN, LIGHT. C IV Absorption Systems in QSO Spectra: Is the Character of Systems with $z_{abs} \cong z_{em}$ Different from Those with $z_{abs} \ll z_{em}$? *Craig B. Foltz, Ray J. Weymann, Bradley M. Peterson, Light Sun, Matthew A. Malkan, & Frederic H. Chaffee, Jr.* 307, 504, 102-C1 (1986)

SUN, M. T. On the Numerical Computation of Nonlinear Force-free Magnetic Fields. *S. T. Wu, M. T. Sun, H. M. Chang, M. J. Hagyard, & G. A. Gary.* 362, 698, 179-D6 (1990)

SUN, SZE-DUNG. Kinematics and Ionization of Extended Gas in Active Galaxies. II. A Circumnuclear Starburst in the Type 1 Seyfert NGC 7469. *A. S. Wilson, J. A. Baldwin, Sze-Dung Sun, & A. E. Wright.* 310, 121, 133-C14 (1986)

SUN, WEI-HSIN. Magnetic Field Measurements on the Sun and Implications for Stellar Magnetic Field Observations. *Wei-Hsin Sun, Mark S. Giampapa, & Simon P. Worden.* 312, 930, 13-B1 (1987)

Fitting Improved Accretion Disk Models to the Multiwavelength Continua of Quasars and Active Galactic Nuclei. *Wei-Hsin Sun & Matthew A. Malkan.* 346, 68, 166-G12 (1989)

SUNADA, KAZUYOSHI. G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)

SUNDAR, R. RAJAN. The Accretion of Interplanetary Dust by Ap and Am Stars. *C. Krishna Kumar, Joseph M. Davila, & R. Rajan Sundar.* 337, 414, 22-D9 (1989)

SUNDELIUS, B. OJ 287: Binary Pair of Supermassive Black Holes. *A. Sillanpää, S. Haarala, M. J. Valtonen, B. Sundelius, & G. G. Byrd.* 325, 628, 27-D6 (1988)

SUNDELIUS, BJÖRN. A Computer-generated Galaxy Model with Long-lived Two-armed Spiral Structure. *Magnus Thomasson, Bruce G. Elmegreen, Karl Johan Donner, & Björn Sundelius.* 356, L9, 103-C1 (1990)

SUNTZEFF, N. B. Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

SUNTZEFF, NICHOLAS. WZ Sagittae: Time-resolved Spectroscopy during Quiescence. *Ronald L. Gilliland, Edward Kemper, & Nicholas Suntzeff.* 301, 252, 16-F4 (1986)

SUNTZEFF, NICHOLAS B. Abundances of Carbon, Nitrogen, and Oxygen and Their Isotopes in the Atmospheres of Four SC Stars. *James F. Dominy, George Wallerstein, & Nicholas B. Suntzeff.* 300, 325, 4-E12 (1986)

The Kinematics of the Small Magellanic Cloud from Its Field Carbon Stars. *Eduardo Hardy, Nicholas B. Suntzeff, & Marc Azzopardi.* 344, 210, 135-E10 (1989)

Molecules toward HD 62542: A High-Density, Peculiar Extinction Sight Line in the Gum Nebula Complex. *Jason A. Cardelli, Nicholas B. Suntzeff, Richard J. Edgar, & Blair D. Savage.* 362, 551, 177-E9 (1990)

SUNYAEV, R. A. Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806–20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

SURDEJ, J. New Observations and Gravitational Lens Models of the Cloverleaf Quasar H1413+117. *R. Kayser, J. Surdej, J. J. Condon, K. I. Kellermann, P. Magain, M. Remy, & A. Smette.* 364, 15, 194-C1 (1990)

SURDEJ, JEAN. Formation of P Cygni Line Profiles in Relativistically Expanding Atmospheres. *Damien Hutsemékers & Jean Surdej.* 361, 367, 162-F7 (1990)

SUTHERLAND, P. G. Accretion onto Neutron Stars with the Presence of a Double Layer. *A. C. Williams, M. C. Weisskopf, R. F. Elsner, W. Darbro, & P. G. Sutherland.* 305, 759, 77-C1 (1986)

Observations of Quasi-periodic Oscillations from GX 5–1 and Cygnus X-2 with the *Einstein* (*HEAO 2*) Observatory. *R. F. Elsner, M. C. Weisskopf, W. Darbro, B. D. Ramsey, A. C. Williams, P. G. Sutherland, & J. E. Grindlay.* 308, 655, 116-B7 (1986)

SUTHERLAND, PETER. Inside Supernova 1987A. *Richard McCray, J. Michael Shull, & Peter Sutherland.* 317, L73, 78-C7 (1987)

Gamma-Ray Spectra and Energy Deposition for Type Ia Supernovae. *Kailash Ambwani & Peter Sutherland.* 325, 820, 29-E2 (1988)

X-Rays from Supernova 1987A. *Yueming Xu, Peter Sutherland, Richard McCray, & Randy R. Ross.* 327, 197, 49-B5 (1988)

SUTHERLAND, PETER G. Models for Type Ia Supernovae with Composition Inversions. *J. Craig Wheeler, Douglas Swartz, Zong-wei Li, & Peter G. Sutherland.* 316, 733, 60-B5 (1987)

SUTHERLAND, RALPH S. ^{9}Be Abundance in Population II Stars: Implications for Light-Element Nucleosynthesis. *Sean G. Ryan,*

M. S. Bessell, Ralph S. Sutherland, & John E. Norris. 348, L57, 13-B10 (1990)

SUTIN, B. M. CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)

SUTIN, BRIAN. Collisional Charging of Interstellar Grains. *B. T. Draine & Brian Sutin.* 320, 803, 118-E5 (1987)

Is There Structure on the Scale of $300h^{-1}$ Mpc? *Marc Postman, David N. Spergel, Brian Sutin, & Roman Juszkiewicz.* 346, 588, 174-F10 (1989)

SUTO, H. Infrared Spectroscopic Study of NGC 2024. *T. Maihara, K. Mizutani, & H. Suto.* 354, 549, 83-B9 (1990)

SUTO, HIROSHI. 3.3 Micron Emission Feature in Galaxies. *Kohei Mizutani, Hiroshi Suto, & Toshinori Maihara.* 346, 675, 175-G1 (1989)

SUTO, YASUSHI. Correlation Function in Decaying Particle Cosmology. *Yasushi Suto.* 321, 36, 122-D12 (1987)

Small-scale Anisotropies in the Microwave Background in a Baryon-dominated Open Universe. *Naoteru Gouda, Misao Sasaki, & Yasushi Suto.* 321, L1, 129-B4 (1987)

Self-similar Dynamics of Polytropic Gaseous Spheres. *Yasushi Suto & Joseph Silk.* 326, 527, 39-C11 (1988)

Stability of Collapsing Isothermal Spheres. *Joseph Silk & Yasushi Suto.* 335, 295, 173-G1 (1988)

Evolution of Perturbations in a Baryon-dominated Universe: Gauge-invariant Analysis. *Naoteru Gouda, Misao Sasaki, & Yasushi Suto.* 341, 557, 92-C1 (1989)

The Mach Number of the Cosmic Flow: A Critical Test for Current Theories. *Jeremiah P. Ostriker & Yasushi Suto.* 348, 378, 7-C9 (1990)

A Gravitational Thermodynamic Approach to Probe the Primordial Spectrum of Cosmological Density Fluctuations. *Yasushi Suto, Makoto Itoh, & Shogo Inagaki.* 350, 492, 32-D1 (1990)

Statistical Analysis of Peculiar Velocity Fields in Cosmological *N*-Body Simulations. *Yasushi Suto & Masaya Fujita.* 360, 7, 145-B8 (1990)

Microwave Background Anisotropies and the Primordial Spectrum of Cosmological Density Fluctuations. *Yasushi Suto, Naoteru Gouda, & Naoshi Sugiyama.* 74, 665, 40-B1 (1990)

SUTTON, E. C. The Rotational Emission-Line Spectrum of Orion A between 247 and 263 GHz. *Geoffrey A. Blake, E. C. Sutton, C. R. Masson, & T. G. Phillips.* 60, 357, 5-A14 (1986)

Excitation of Methyl Cyanide in the Hot Core of Orion. *E. C. Sutton, Geoffrey A. Blake, R. Genzel, C. R. Masson, & T. G. Phillips.* 311, 921, 158-A1 (1986)

Molecular Abundances in OMC-1: The Chemical Composition of Interstellar Molecular Clouds and the Influence of Massive Star Formation. *Geoffrey A. Blake, E. C. Sutton, C. R. Masson, & T. G. Phillips.* 315, 621, 47-D9 (1987)

Identification of Interstellar Methanol Lines. *E. C. Sutton & Eric Herbst.* 333, 359, 142-A9 (1988)

CO $J = 3$–2 Observations of the Neutral Disk in Sagittarius A West. *E. C. Sutton, W. C. Danchi, P. A. Jaminet, & C. R. Masson.* 348, 503, 8-G10 (1990)

SUTTON, S. A Radio Survey of Symbiotic Stars: Erratum. *E. R. Seaquist, A. R. Taylor, & S. Sutton.* 317, 555, 70-A5 (1987) (Orig. paper in 284, 202, 100-C7 (1984))

SUZUKI, A. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

SUZUKI, H. A Sensitive Line Search in Circumstellar Envelopes. *Nguyen-Quang-Rieu, S. Deguchi, H. Izumiura, N. Kaifu, M. Ohishi, H. Suzuki, & Nobuharu Ukita.* 330, 374, 94-D1 (1988)

Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)

Search for HC_3NH^+: The Upper Limit of the Column Density in TMC-1. *T. Amano, S. Saito, S. Yamamoto, K. Kawaguchi, H. Suzuki, M. Ohishi, & N. Kaifu.* 351, 500, 46-C6 (1990)

SUZUKI, HIROKO. Detection of Intense Unidentified Lines in TMC-1. *Norio Kaifu, Hiroko Suzuki, Masatoshi Ohishi, Takeshi Miyaji, Shin-ichi Ishikawa, Takashi Kasuga, Masaki Morimoto, & Shuji Saito.* 317, L111, 78-E14 (1987)

Laboratory Detection and Astronomical Identification of a New Free Radical, $CCS(^3\Sigma^-)$. *Shuji Saito, Kentarou Kawaguchi, Satoshi Yamamoto, Masatoshi Ohishi, Hiroko Suzuki, & Norio Kaifu.* 317, L115, 78-F3 (1987)

Laboratory Detection of a New Carbon-Chain Molecule C_3S and Its Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Norio Kaifu, Hiroko Suzuki, & Masatoshi Ohishi.* 317, L119, 78-F7 (1987)

Fluorescent Molecular Hydrogen Emission from the Reflection Nebula NGC 2023. *Ian Gatley, Tetsuo Hasegawa, Hiroko Suzuki, Ron Garden, Peter Brand, John Lightfoot, William Glencross, Haruyuki Okuda, & Tetsuya Nagata.* 318, L73, 92-D4 (1987)

Laboratory and Astronomical Detection of the Cyclic H_3H Radical. *Satoshi Yamamoto, Shuji Saito, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, Norio Kaifu, & Akinori Murakami.* 322, L55, 145-D12 (1987)

Laboratory Microwave Spectroscopy of the Vibrational Satellites for the ν_7 and $2\nu_7$ States of C_4H and Their Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, M. Guélin, J. Cernicharo, Hiroko Suzuki, & Masatoshi Ohishi.* 323, L149, 164-E8 (1987)

The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)

Laboratory Detection of a New Interstellar Free Radical $CH_2CN(^2B_1)$. *Shuji Saito, Satoshi Yamamoto, W. M. Irvine, L. M. Ziurys, Hiroko Suzuki, Masatoshi Ohishi, & Norio Kaifu.* 334, L113, 169-F10 (1988)

The Microwave Spectrum of the CP Radical and Related Astronomical Search. *Shuji Saito, Satoshi Yamamoto, Kentarou Kawaguchi, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, & Norio Kaifu.* 341, 1114, 99-A1 (1989)

A New CO Bipolar Flow and Dense Disk System Associated with the Infrared Reflection Nebula GGD 27 IRS. *Takuya Yamashita, Hiroko Suzuki, Norio Kaifu, Motohide Tamura, Charles M. Mountain, & Toby J. T. Moore.* 347, 894, 194-E7 (1989)

Laboratory Microwave Spectroscopy of the Linear C_3 and C_3D Radicals and Related Astronomical Observation. *Satoshi Yamamoto, Shuji Saito, Hiroko Suzuki, Shuji Deguchi, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 348, 363, 5-E1 (1990)

CO Outflow and Infrared Reflection Nebula of GSS 30 in the Rho Ophiuchi Core. *Motohide Tamura, Shuji Sato, Hiroko Suzuki, Norio Kaifu, & Jim H. Hough.* 350, 728, 35-B1 (1990)

Rotational Spectrum of the CCS Radical Studied by Laboratory Microwave Spectroscopy and Radio-astronomical Observations. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Yoshihiro Chikada, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 361, 318, 160-G7 (1990)

Detection of Five ^{13}C Isotopic Species of HC_5N in TMC-1. *Shuro Takano, Hiroko Suzuki, Masatoshi Ohishi, Shin-ichi Ishikawa, Norio Kaifu, Yasuhiro Hirahara, & Akimasa Masuda.* 361, L15, 161-D11 (1990)

SUZUKI, Y. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma,*

M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang. 359, 574, 143-B6 (1990)

SVENSSON, ROLAND. The Synchrotron Boiler. *Gabriele Ghisellini, Paul W. Guilbert, & Roland Svensson.* 334, L5, 161-B1 (1988)

Absorption of Gamma Rays and Gamma Rays at Cosmological Redshifts. *Andrzej A. Zdziarski & Roland Svensson.* 344, 551, 141-D4 (1989)

Photon-Photon Scattering of Gamma Rays at Cosmological Distances. *Roland Svensson & Andrzej A. Zdziarski.* 349, 415, 20-D5 (1990)

Electron-Positron Pairs, Compton Reflection, and the X-Ray Spectra of Active Galactic Nuclei. *Andrzej A. Zdziarski, Gabriele Ghisellini, Ian M. George, Roland Svensson, A. C. Fabian, & Chris Done.* 363, L1, 187-A5 (1990)

SVOBODA, R. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

SWADE, DARYL A. HCN Production from Comet Halley. *F. Peter Schloerb, Wayne M. Kinzel, Daryl A. Swade, & William M. Irvine.* 310, L55, 138-D12 (1986)

Radio Wavelength Observations of the L134N Molecular Core. *Daryl A. Swade.* 71, 219, 38-A1 (1989)

The Physics and Chemistry of the L134N Molecular Cloud. *Daryl A. Swade.* 345, 828, 161-A1 (1989)

SWANEPOEL, J. W. H. A New Powerful Test for Periodic Pulsed Emission of High-Energy Photons. *J. W. H. Swanepoel & C. F. de Beer.* 350, 754, 35-D2 (1990)

SWANK, J. H. Fast Transients: A Search in X-Rays for Short Flares, Bursts, and Related Phenomena. *A. Connors, P. J. Serlemitsos, & J. H. Swank.* 303, 769, 51-A4 (1986)

EXOSAT Observations of V471 Tauri: A 9.25 Minute White Dwarf Pulsation and Orbital Phase Dependent X-Ray Dips. *K. A. Jensen, J. H. Swank, R. Petre, E. F. Guinan, E. M. Sion, & H. L. Shipman.* 309, L27, 125-E5 (1986)

X-Ray Spectral Models of Galactic Bulge Sources: The Emission-Line Factor. *S. D. Vrtilek, J. H. Swank, & T. R. Kallman.* 326, 186, 34-B6 (1988)

Long-Term Temporal Variability of Cygnus X-2. *S. D. Vrtilek, J. H. Swank, R. L. Kelley, & S. M. Kahn.* 329, 276, 78-B1 (1988)

A Search for a Dynamical Attractor in Cygnus X-1. *James C. Lochner, J. H. Swank, & A. E. Szymkowiak.* 337, 823, 29-B11 (1989)

SWANK, JEAN H. Ultraviolet Spectrophotometry and Optical and Infrared Photometry of the Old Nova GK Persei. *Chi-Chao Wu, Robert J. Panek, Albert V. Holm, John C. Raymond, Lee W. Hartmann, & Jean H. Swank.* 339, 443, 55-D10 (1989)

SWARTZ, DOUGLAS. Models for Type Ia Supernovae with Composition Inversions. *J. Craig Wheeler, Douglas Swartz, Zong-wei Li, & Peter G. Sutherland.* 316, 733, 60-B5 (1987)

SWEETNAM, DONALD N. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

SWEIGART, ALLEN V. On the Interpretation of the Sandage Period-Shift Effect among Globular Cluster RR Lyrae Variables. *Allen V. Sweigart, Alvio Renzini, & Amedeo Tornambè.* 312, 762, 11-C4 (1987)

Evolutionary Sequences for Horizontal-Branch Stars. *Allen V. Sweigart.* 65, 95, 29-A1 (1987)

The Development of the Red Giant Branch. I. Theoretical Evolutionary Sequences. *Allen V. Sweigart, Laura Greggio, & Alvio Renzini.* 69, 911, 15-A1 (1989)

The Development of the Red Giant Branch. II. Astrophysical Properties. *Allen V. Sweigart, Laura Greggio, & Alvio Renzini.* 364, 527, 202-F3 (1990)

SWENSON, FRITZ J. Main-Sequence Evolution with Efficient Central Energy Transport. *John Faulkner & Fritz J. Swenson.* 329, L47, 81-E1 (1988)

Is There a Classical Hyades Lithium Problem? *Fritz J. Swenson, Guy S. Stringfellow, & John Faulkner.* 348, L33, 6-D3 (1990)

SWINDLE, T. D. Evidence in Meteorites for an Active Early Sun. *M. W. Caffee, C. M. Hohenberg, T. D. Swindle, & J. N. Goswami.* 313, L31, 21-C3 (1987)

SWINGS, J. P. Extinction and Abundance Properties of Alpha Scorpii Circumstellar Grains. *Theodore P. Snow, Jr., Richard H. Buss, Jr., D. P. Gilra, & J. P. Swings.* 321, 921, 134-E10 (1987)

SWINNEY, R. W. The 1983 September Radio Outburst of Cygnus X-3: Relativistic Expansion at 0.35*c*. *R. E. Spencer, R. W. Swinney, K. J. Johnston, & R. M. Hjellming.* 309, 694, 128-G7 (1986)

Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

SWORDY, SIMON P. Energy Spectra of Cosmic-Ray Nuclei from 50 to 2000 GeV per AMU. *John M. Grunsfeld, Jacques L'Heureux, Peter Meyer, Dietrich Müller, & Simon P. Swordy.* 327, L31, 53-C9 (1988)

Relative Abundances of Secondary and Primary Cosmic Rays at High Energies. *Simon P. Swordy, Dietrich Müller, Peter Meyer, Jacques L'Heureux, & John M. Grunsfeld.* 349, 625, 23-A9 (1990)

SYGNET, J.-F. Nonlinear Coupling of Galactic Spiral Modes. *M. Tagger, J.-F. Sygnet, E. Athanassoula, & R. Pellat.* 318, L43, 92-B4 (1987)

Bars and Barred Spirals: Linear Theory Revisited. *M. Tagger, J.-F. Sygnet, & R. Pellat.* 337, L9, 25-B1 (1989)

Spiral Waves and Instability in Magnetized Astrophysical Disks. *M. Tagger, R. N. Henriksen, J.-F. Sygnet, & R. Pellat.* 353, 654, 72-A8 (1990)

Collisionless Formation of Filaments in an Expanding Universe. *J.-M. Alimi, F. R. Bouchet, R. Pellat, J.-F. Sygnet, & F. Moutarde.* 354, 3, 74-B4 (1990)

SYKES, MARK V. *IRAS* Observations of Extended Zodiacal Structure. *Mark V. Sykes.* 334, L55, 161-F1 (1988)

SYLWESTER, J. Turbulent and Directed Plasma Motions in Solar Flares. *A. Fludra, J. R. Lemen, J. Jakimiec, R. D. Bentley, & J. Sylwester.* 344, 991, 146-C7 (1989)

SZABO, A. Solar Microbursts at Meter-Dekameter Wavelengths. *M. R. Kundu, T. E. Gergely, A. Szabo, R. Loiacono, & S. M. White.* 308, 436, 112-F13 (1986)

SZALAY, A. S. The Statistics of Peaks of Gaussian Random Fields. *J. M. Bardeen, J. R. Bond, N. Kaiser, & A. S. Szalay.* 304, 15, 54-B6 (1986)

Primeval QSOs. *A. Cavaliere & A. S. Szalay.* 311, 589, 154-C8 (1986)

Lyman-Alpha Clouds as a Relic of Primordial Density Fluctuations. *J. R. Bond, A. S. Szalay, & J. Silk.* 324, 627, 10-C1 (1988)

Angular Cross-Correlation of Abell Clusters in Different Distance Classes. *A. S. Szalay, I. Hollósi, & G. Tóth.* 339, L5, 58-A11 (1989)

The Morphology-Density Relation for Galaxies in a Cold Dark Matter–dominated Universe. *A. E. Evrard, J. Silk, & A. S. Szalay.* 365, 13, 206-C1 (1990)

SZALAY, ALEXANDER. Primeval Galaxies and Cold Dark Matter. *Joseph Silk & Alexander Szalay.* 323, L107, 164-B4 (1987)

SZALAY, ALEXANDER S. *N*-Point Correlations for Biased Galaxy Formation. *Lars Gerhard Jensen & Alexander S. Szalay.* 305, L5, 74-A8 (1986)

Constraints on the Biasing of Density Fluctuations. *Alexander S. Szalay.* 333, 21, 138-C1 (1988)

Three-Point Correlations of Galaxy Clusters. *Gábor Tóth, Joseph Hollósi, & Alexander S. Szalay.* 344, 75, 134-A6 (1989)

Multipole Expansion of the Large-Scale Velocity Field: Using the Tensor Window Function. *Eniko Regos & Alexander S. Szalay.* 345, 627, 158-E6 (1989)

SZAPIEL, S. A Diffraction-limited f/2 1.5 Meter Diameter Liquid Mirror. *E. F. Borra, R. Content, M. J. Drinkwater, & S. Szapiel.* 346, L41, 173-E2 (1989)

SZENTGYÖRGYI, A. Astrophysical Implications and Observational Prospects of X-Ray Polarimetry. *P. Mészáros, R. Novick, G. A. Chanan, M. C. Weisskopf, & A. Szentgyörgyi.* 324, 1056, 15-B5 (1988)

SZENTGYORGYI, A. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

SZKODY, P. X-Ray and Optical Observations of the Ultrashort Period Dwarf Nova SW Ursae Majoris: A Likely New DQ Herculis Star. *A. W. Shafter, P. Szkody, & J. R. Thorstensen.* 308, 765, 117-C11 (1986)

SZKODY, PAULA. Discovery of a New Short-Period, Eclipsing Cataclysmic Variable. *Ronald A. Downes, Mario Mateo, Paula Szkody, David C. Jenner, & Bruce Margon.* 301, 240, 16-E9 (1986)

Z Camelopardalis: Outburst P Cygni Profiles and Quiescent Continuum. *Paula Szkody & Mario Mateo.* 301, 286, 17-A10 (1986)

EXOSAT Results on V426 Ophiuchi: Indications of a DQ Herculis System. *Paula Szkody.* 301, L29, 20-C14 (1986)

Photometry and Spectroscopy of Short-Period Cataclysmic Variables. *Paula Szkody.* 63, 685, 11-B3 (1987)

EXOSAT and *IUE* Observations of SW UMa during Superoutburst. *Paula Szkody, Julian Osborne, & B. J. M. Hassall.* 328, 243, 64-F1 (1988)

Infrared Light Curves of Three Novae and Three Dwarf Novae at Quiescence. *Paula Szkody & Laurie Feinswog.* 334, 422, 159-D1 (1988)

High Galactic Latitude Cataclysmic Variables. *Steve B. Howell & Paula Szkody.* 356, 623, 108-A4 (1990)

Outburst Spectra of 11 Dwarf Novae. *Paula Szkody, François Piché, & Laurie Feinswog.* 73, 441, 24-E1 (1990)

The Phase 0.5 Absorption in V1315 Aquilae, SW Sextantis, and DW Ursae Majoris. *Paula Szkody & François Piché.* 361, 235, 159-G7 (1990)

The Discovery of Strong Neutral Atomic Carbon Absorption Lines in the Spectrum of the DAQZ5 White Dwarf in the Ultra–Short-Period Dwarf Nova WZ Sagittae during Quiescence. *Edward M. Sion, Henry J. Leckenby, & Paula Szkody.* 364, L41, 205-D11 (1990)

A Study of the Eclipsing Cataclysmic Variable Lanning 90. *Peter M. Garnavich, Paula Szkody, Mario Mateo, Laurie Feinswog, John Booth, Bret Goodrich, H. Richard Miller, Michael T. Carini, & John W. Wilson.* 365, 696, 216-G13 (1990)

SZTAJNO, M. Correlation between Spectral State and Quasi-periodic Oscillation Parameters in GX 5-1. *M. van der Klis, F. Jansen, J. van Paradijs, W. H. G. Lewin, M. Sztajno, & J. Trümper.* 313, L19, 21-B7 (1987)

EXOSAT Observations of 4U/MXB 1636–53: On the Relation between the Amount of Accreted Fuel and the Strength of an X-Ray Burst. *W. H. G. Lewin, W. Penninx, J. van Paradijs, E. Damen, M. Sztajno, J. Trümper, & M. van der Klis.* 319, 893, 104-F9 (1987)

EXOSAT Observations of 4U 1705–44: Type I Bursts and Persistent Emission. *A. Langmeier, M. Sztajno, G. Hasinger, J. Trümper, & M. Gottwald.* 323, 288, 156-B13 (1987)

SZTAJNO, MIREK. On the Theory of Type I X-Ray Bursts. The Energetics of Bursts and the Nuclear Fuel Reservoir in the Envelope. *Masayuki Y. Fujimoto, Mirek Sztajno, Walter H. G. Lewin, & Jan van Paradijs.* 319, 902, 104-G5 (1987)

SZUSZKIEWICZ, E. Slim Accretion Disks. *M. A. Abramowicz, B. Czerny, J.-P. Lasota, & E. Szuszkiewicz.* 332, 646, 131-C10 (1988)

SZUSZKIEWICZ, EWA. Relation between the Ionizing Continuum and the Emission Lines in Fairall 9. *Luc Binette, Almudena Prieto, Ewa Szuszkiewicz, & Wei Zheng.* 343, 135, 119-G3 (1989)

SZYMKOWIAK, A. E. The X-Ray Spectrum of SN 1006. *A. J. S. Hamilton, C. L. Sarazin, & A. E. Szymkowiak.* 300, 698, 10-F13 (1986)

The X-Ray Spectrum of Tycho. *A. J. S. Hamilton, C. L. Sarazin, & A. E. Szymkowiak.* 300, 713, 11-A1 (1986)

A Comprehensive Study of the X-Ray Structure and Spectrum of IC 443. *R. Petre, A. E. Szymkowiak, F. D. Seward, & R. Willingale.* 335, 215, 172-G8 (1988)

A Search for a Dynamical Attractor in Cygnus X-1. *James C. Lochner, J. H. Swank, & A. E. Szymkowiak.* 337, 823, 29-B11 (1989)

SZYMKOWIAK, ANDREW. *IRAS* Observations of Supernova Remnants: A Comparison between Their Infrared and X-Ray Cooling Rates. *Eli Dwek, Robert Petre, Andrew Szymkowiak, & Walter L. Rice.* 320, L27, 114-C4 (1987)

TAAM, RONALD E. Models for Type I Supernova. I. Detonations in White Dwarfs. *S. E. Woosley, Ronald E. Taam, & Thomas A. Weaver.* 301, 601, 22-C3 (1986)

Magnetic Field Decay and the Origin of Neutron Star Binaries. *Ronald E. Taam & E. P. J. van den Heuvel.* 305, 235, 69-E7 (1986)

The Mass and Radius of a Neutron Star in X-Ray Burster MXB 1636–536. *Masayuki Y. Fujimoto & Ronald E. Taam.* 305, 246, 69-F4 (1986)

Model Atmospheres for X-Ray Bursting Neutron Stars. *Richard A. London, Ronald E. Taam, & W. Michael Howard.* 306, 170, 83-B8 (1986)

Numerical Simulations of Adiabatic Axisymmetric Accretion Flow. I. A New Mechanism for the Formation of Jets. *B. A. Fryxell, Ronald E. Taam, & S. L. W. McMillan.* 315, 536, 46-E5 (1987)

The Formation and Evolution of Tidal Binary Systems. *Stephen L. W. McMillan, P. N. McDermott, & Ronald E. Taam.* 318, 261, 81-F11 (1987)

Nonradial *g*-Mode Oscillations in X-Ray Bursting Neutron Stars. *P. N. McDermott & Ronald E. Taam.* 318, 278, 82-A1 (1987)

A Dynamical Instability Model for the Period Gap of Cataclysmic Variable Binary Systems. *Ronald E. Taam & P. N. McDermott.* 319, L83, 107-E8 (1987)

The Spectra of Accretion Disks and Their Application to Low-Mass X-Ray Binaries. *Ronald E. Taam & P. Mészáros.* 322, 329, 141-D6 (1987)

On Nonsteady Accretion in Stellar Wind–fed X-Ray Sources. *Ronald E. Taam & B. A. Fryxell.* 327, L73, 61-D6 (1988)

Evolution of Low-Mass Close Binary Systems. *P. N. McDermott, Ronald E. Taam, & F. A. Ringwald.* 328, 617, 69-G9 (1988)

A Model for the Recurrent Flares in EXO 2030+375. *Ronald E. Taam, B. A. Fryxell, & D. A. Brown.* 331, L117, 121-G5 (1988)

Numerical Simulations of Nonaxisymmetric Adiabatic Accretion Flow. *B. A. Fryxell & Ronald E. Taam.* 335, 862, 182-B5 (1988)

Double-Core Evolution. III. The Evolution of a 5 $M_{\odot}$ Red Giant with a 1 $M_{\odot}$ Companion. *Ronald E. Taam & Peter Bodenheimer.* 337, 849, 29-E1 (1989)

Numerical Studies of Asymmetric Adiabatic Accretion Flow: The Effect of Velocity Gradients. *Ronald E. Taam & B. A. Fryxell.* 339, 297, 53-F1 (1989)

On the Disrupted Magnetic Braking Model for the Period Gap of Cataclysmic Variables. *P. N. McDermott & Ronald E. Taam.* 342, 1019, 114-G7 (1989)

The Disrupted Magnetic Braking Hypothesis and the Period Gap of Cataclysmic Variables. *Ronald E. Taam & H. C. Spruit.* 345, 972, 162-E10 (1989)

The Spectra of Relativistic Accretion Disks: Application to A0620–00. *Albert Fu & Ronald E. Taam.* 349, 553, 22-B9 (1990)

The Spectra of Weakly Magnetized Neutron Stars. *Albert Fu & Ronald E. Taam.* 353, 205, 64-F3 (1990)

On the Formation of Red Giant Binaries by Tidal Capture. *Stephen L. W. McMillan, Ronald E. Taam, & P. N. McDermott.* 354, 190, 76-C9 (1990)

Hydrodynamic Simulations of Stellar Wind Disruption by a Compact X-Ray Source. *John M. Blondin, Timothy R. Kallman, Bruce A. Fryxell, & Ronald E. Taam.* 356, 591, 107-E9 (1990)

TABARA, H. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G.*

Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller. 313, 662, 24-A12 (1987)

VLA Observations of the Radio Galaxy Hydra A (3C 218). *G. B. Taylor, R. A. Perley, M. Inoue, T. Kato, H. Tabara, & K. Aizu.* 360, 41, 145-E5 (1990)

TABUKI, T. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

TACCONI, LINDA. The Molecular Content of Interacting and Isolated Galaxies: The Effect of Environment on the Efficiency of Star Formation. *Judith S. Young, Jeffrey D. Kenney, Linda Tacconi, M. J. Claussen, Y.-L. Huang, Lowell Tacconi-Garman, Shuding Xie, & F. Peter Schloerb.* 311, L17, 152-B11 (1986)

Molecular Gas, the Interstellar Medium, and Star Formation in S0 and Sa Galaxies. *Harley A. Thronson, Jr., Linda Tacconi, Jeffrey Kenney, Matthew A. Greenhouse, Michael Margulis, Lowell Tacconi-Garman, & Judith S. Young.* 344, 747, 143-E10 (1989)

TACCONI, LINDA J. The Distribution of Interstellar Matter in the Scd Galaxy NGC 6946. I. The Neutral Hydrogen Disk. *Linda J. Tacconi & Judith S. Young.* 308, 600, 115-E2 (1986)

The CO Contents of Dwarf Irregular Galaxies. *Linda J. Tacconi & Judith S. Young.* 322, 681, 147-C1 (1987)

The Distribution of the Interstellar Medium in the Scd Galaxy NGC 6946. II. The CO Data. *Linda J. Tacconi & Judith S. Young.* 71, 455, 41-F1 (1989)

The Distribution of the Interstellar Medium in the Scd Galaxy NGC 6946. III. Azimuthal Variations in the Molecular and Atomic Components. *Linda J. Tacconi & Judith S. Young.* 352, 595, 58-D5 (1990)

TACCONI-GARMAN, L. E. High Spectral Resolution Observations and Kinematic Modeling of the 1667 MHz Hyperfine Transition of OH in Comets Halley (1982i), Giacobini-Zinner (1984e), Hartley-Good (1985l), Thiele (1985m), and Wilson (1986l). *L. E. Tacconi-Garman, F. Peter Schloerb, & M. J. Claussen.* 364, 672, 204-E1 (1990)

TACCONI-GARMAN, LOWELL. The Molecular Content of Interacting and Isolated Galaxies: The Effect of Environment on the Efficiency of Star Formation. *Judith S. Young, Jeffrey D. Kenney, Linda Tacconi, M. J. Claussen, Y.-L. Huang, Lowell Tacconi-Garman, Shuding Xie, & F. Peter Schloerb.* 311, L17, 152-B11 (1986)

Molecular Gas, the Interstellar Medium, and Star Formation in S0 and Sa Galaxies. *Harley A. Thronson, Jr., Linda Tacconi, Jeffrey Kenney, Matthew A. Greenhouse, Michael Margulis, Lowell Tacconi-Garman, & Judith S. Young.* 344, 747, 143-E10 (1989)

TACHI, T. Ideal Condensations due to Perpendicular Thermal Conduction in a Sheared Magnetic Field. *G. Van Hoven, L. Sparks, & T. Tachi.* 300, 249, 3-F8 (1986)

TADEMARU, EUGENE. Jets from T Tauri Stars: Spectroscopic Evidence and Collimation Mechanism. *John Kwan & Eugene Tademaru.* 332, L41, 129-E7 (1988)

TAFF, L. G. Gamma-Ray Burst Astrometry. *L. G. Taff.* 326, 1032, 45-A1 (1988)

Some Comments on the Astrometric Properties of the Guide Star Catalog. *L. G. Taff, M. G. Lattanzi, B. Bucciarelli, R. Gilmozzi, B. J. McLean, H. Jenkner, V. G. Laidler, B. M. Lasker, M. M. Shara, & C. R. Sturch.* 353, L45, 73-B7 (1990)

Two Successful Techniques for Schmidt Plate Astrometry. *L. G. Taff, M. G. Lattanzi, & B. Bucciarelli.* 358, 359, 126-E1 (1990)

Catalog-to-Catalog Reductions. *L. G. Taff, B. Bucciarelli, & M. G. Lattanzi.* 361, 667, 166-D3 (1990)

The Astrometric Calibration of the *Hubble Space Telescope* Fine Guidance Sensors. *L. G. Taff.* 365, 407, 211-D5 (1990)

TAGGER, M. Nonlinear Coupling of Galactic Spiral Modes. *M. Tagger, J.-F. Sygnet, E. Athanassoula, & R. Pellat.* 318, L43, 92-B4 (1987)

Bars and Barred Spirals: Linear Theory Revisited. *M. Tagger, J.-F. Sygnet, & R. Pellat.* 337, L9, 25-B1 (1989)

Spiral Waves and Instability in Magnetized Astrophysical Disks. *M. Tagger, R. N. Henriksen, J.-F. Sygnet, & R. Pellat.* 353, 654, 72-A8 (1990)

TAGLIAFERRI, G. Variability of the BL Lacertae Objects PKS 2155–304 and OJ 287 in the Far-Ultraviolet. *L. Maraschi, G. Tagliaferri, E. G. Tanzi, & A. Treves.* 304, 637, 63-A9 (1986)

The Discovery of the 2 Hour Modulated X-Ray Source EXO 033319–2554.2, an AM Herculis System. *J. P. Osborne, P. Giommi, L. Angelini, G. Tagliaferri, & L. Stella.* 328, L45, 74-D10 (1988)

An X-Ray Flare from a B9+ Post–T Tauri Star System in the Field of the Seyfert Galaxy III Zw 2. *G. Tagliaferri, P. Giommi, L. Angelini, J. P. Osborne, & R. Pallavicini.* 331, L113, 121-G1 (1988)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of the BL Lacertae Object PKS 2155–304. *A. Treves, M. Morini, L. Chiappetti, A. Fabian, R. Falomo, D. Maccagni, L. Maraschi, E. G. Tanzi, & G. Tagliaferri.* 341, 733, 94-D5 (1989)

X-Ray and Ultraviolet Observations of the Seyfert Galaxy MCG 8-11-11. *A. Treves, G. Bonelli, L. Chiappetti, R. Falomo, L. Maraschi, G. Tagliaferri, & E. G. Tanzi.* 359, 98, 135-C7 (1990)

TAGLIAFERRI, GIANPIERO. On the X-Ray and Ultraviolet Spectrum of the High-Redshift Quasar 3C 446. *Bianca Garilli & Gianpiero Tagliaferri.* 301, 703, 23-C8 (1986)

TAJIMA, T. Reconnection-driven Oscillations in Dwarf Novae Disks. *T. Tajima & D. Gilden.* 320, 741, 117-G10 (1987)

Current Loop Coalescence Model of Solar Flares. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 321, 1031, 135-F10 (1987)

Energy Buildup in Coronal Magnetic Flux Tubes. *R. S. Steinolfson & T. Tajima.* 322, 503, 143-D10 (1987)

Current Loop Coalescence Model of Solar Flares: Erratum. *T. Tajima, J. Sakai, H. Nakajima, T. Kosugi, F. Brunel, & M. R. Kundu.* 329, 517, 80-G1 (1988) (Orig. paper in 321, 1031, 135-F10 (1987))

Nonlinear Parker Instability of Isolated Magnetic Flux in a Plasma. *K. Shibata, T. Tajima, R. Matsumoto, T. Horiuchi, T. Hanawa, R. Rosner, & Y. Uchida.* 338, 471, 38-F6 (1989)

Nonlinear Twist-Kink Instability of a Coronal Loop. *E. G. Zaidman & T. Tajima.* 338, 1139, 47-F9 (1989)

Two-dimensional Magnetohydrodynamic Model of Emerging Magnetic Flux in the Solar Atmosphere. *K. Shibata, T. Tajima, R. S. Steinolfson, & R. Matsumoto.* 345, 584, 156-C8 (1989)

Magnetic Accretion Disks Fall into Two Types. *K. Shibata, T. Tajima, & R. Matsumoto.* 350, 295, 28-F1 (1990)

Emergence of Solar Magnetic Flux from the Convection Zone into the Photosphere and Chromosphere. *K. Shibata, S. Nozawa, R. Matsumoto, A. C. Sterling, & T. Tajima.* 351, L25, 43-D1 (1990)

Enhanced Radiation Driven by a DC Electric Field. *T. Tajima, A. O. Benz, M. Thaker, & J.-N. Leboeuf.* 353, 666, 72-B8 (1990)

Nonlinear Excitation of Magnetic Undular Instability by Convective Motion. *M. Kaisig, T. Tajima, K. Shibata, S. Nozawa, & R. Matsumoto.* 358, 698, 132-C3 (1990)

Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

TAKABA, H. Discovery of Seven Bipolar Outflows by an Unbiased Survey. *Y. Fukui, K. Sugitani, H. Takaba, T. Iwata, A. Mizuno, H. Ogawa, & K. Kawabata.* 311, L85, 160-E12 (1986)

A Bipolar Outflow: L1641-North and Its Ambient Dense Cloud. *Y. Fukui, H. Takaba, T. Iwata, & A. Mizuno.* 325, L13, 25-B4 (1988)

TAKADA-HIDAI, MASAHIDE. The Abundance of Gallium in B-Type Chemically Peculiar Stars. *Masahide Takada-Hidai, Kozo Sadakane, & Jun Jugaku.* 304, 425, 58-D14 (1986)

The Abundance of Gallium in B-Type Chemically Peculiar Stars: Addendum. *Masahide Takada-Hidai, Kozo Sadakane, & Jun Jugaku.* 320, 437, 112-G4 (1987) (Orig. paper in 304, 425, 58-D14 (1986))

The Abundance of Zinc in Hg-Mn Stars. *Kozo Sadakane, Jun Jugaku, & Masahide Takada-Hidai.* 325, 776, 29-A13 (1988)

TAKAGI, KOJIRO. Laboratory Microwave Spectrum of $^{13}CH_3OH$. *Hirotada Kuriyama, Kojiro Takagi, Harutoshi Takeo, & Chi Matsumura.* 311, 1073, 159-E9 (1986)

TAKAGISHI, K. SS 433: A 6 Year Photometric Record. *J. C. Kemp, G. D. Henson, D. J. Kraus, L. C. Carroll, I. S. Beardsley, K. Takagishi, J. Jugaku, M. Matsuoka, E. M. Leibowitz, T. Mazeh, & H. Mendelson.* 305, 805, 77-F7 (1986)

TAKAHARA, F. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

Test for the Cosmological Constant with the Number Count of Faint Galaxies. *M. Fukugita, F. Takahara, K. Yamashita, & Y. Yoshii.* 361, L1, 161-C7 (1990)

TAKAHARA, FUMIO. Galactic Evolution and Cosmology: Probing the Cosmological Deceleration Parameter. *Yuzuru Yoshii & Fumio Takahara.* 326, 1, 32-A7 (1988)

On the Redshift-Volume Measurement of the Cosmological Density Parameter. *Yuzuru Yoshii & Fumio Takahara.* 346, 28, 166-D5 (1989)

Winds from Hot Accretion Disks. *Fumio Takahara, Robert Rosner, & Masaaki Kusunose.* 346, 122, 167-E6 (1989)

TAKAHARA, MARIKO. Supernova Explosions and the Soft Equation of State. *Mariko Takahara & Katsuhiko Sato.* 335, 301, 173-G7 (1988)

TAKAHASHI, F. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

TAKAHASHI, K. Stellar Technetium and Niobium Abundances as a Measure of the Lifetime of AGB Stars in the Third Dredge-up Phase. *G. J. Mathews, K. Takahashi, R. A. Ward, & W. M. Howard.* 302, 410, 32-F10 (1986)

Parametric Study of Pulsed Neutron Source Models for the *s*-Process. *W. M. Howard, G. J. Mathews, K. Takahashi, & R. A. Ward.* 309, 633, 128-B12 (1986)

The Possible Consequences of Strange Quark Matter on Hydrogen Burning in the Sun. *K. Takahashi & R. N. Boyd.* 327, 1009, 60-A1 (1988)

Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

TAKAHASHI, MASAAKI. Magnetohydrodynamic Flows in Kerr Geometry: Energy Extraction from Black Holes. *Masaaki Takahashi, Shinya Nitta, Yoshinori Tatematsu, & Akira Tomimatsu.* 363, 206, 184-F4 (1990)

TAKAHASHI, T. Molecular Gas Bar and Expanding Molecular Ring in the Nucleus of the Spiral Galaxy Maffei 2. *M. Ishiguro, R. Kawabe, K.-I. Morita, S. Okumura, Y. Chikada, T. Kasuga, T. Kanzawa, H. Iwashita, K. Handa, T. Takahashi, H. Kobayashi, Y. Murata, S. Ishizuki, & N. Nakai.* 344, 763, 143-G1 (1989)

TAKAHASHI, Y. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

TAKAHASHI, YOSHIYUKI. Gamma-Ray Lines Produced by Low-Energy Cosmic Rays in SN 1987A. *Toshikazu Ebisuzaki, Yoshiyuki Takahashi, & Noriaki Shibazaki.* 340, 950, 80-B9 (1989)

TAKAKUBO, KEIYA. Bipolar Outflow in B335. *Naomi Hirano, Osamu Kameya, Masatoshi Nakayama, & Keiya Takakubo.* 327, L69, 61-D1 (1988)

High-Velocity Flows in the NGC 7538 Molecular Cloud. *Osamu Kameya, Tatsuhiko I. Hasegawa, Naomi Hirano, Keiya Takakubo, & Munezo Seki.* 339, 222, 52-F5 (1989)

TAKALO, L. O. Phase-resolved *IUE* Observations of AM Herculis System E1405–451. *L. O. Takalo & J. A. Nousek.* 327, 328, 50-E8 (1988)

TAKALO, LEO O. X-Ray–selected M Dwarfs and the Diffuse X-Ray Background. *Jean-Pierre Caillault, David J. Helfand, John A. Nousek, & Leo O. Takalo.* 304, 318, 57-D5 (1986)

Activity in X-Ray–selected Late-Type Stars. *Leo O. Takalo & J. A. Nousek.* 326, 779, 42-B7 (1988)

TAKANO, M. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

TAKANO, S. X-Ray Observations of NGC 253 and M83 with *Ginga*. *T. Ohashi, K. Makishima, T. Tsuru, S. Takano, K. Koyama, & G. C. Stewart.* 365, 180, 208-D9 (1990)

TAKANO, SHURO. The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)

Detection of Five ^{13}C Isotopic Species of HC_5N in TMC-1. *Shuro Takano, Hiroko Suzuki, Masatoshi Ohishi, Shin-ichi Ishikawa, Norio Kaifu, Yasuhiro Hirahara, & Akimasa Masuda.* 361, L15, 161-D11 (1990)

TAKANO, T. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

A Remarkable Multilobe Molecular Outflow: ρ Ophiuchi East, Associated with IRAS 16293–2422. *A. Mizuno, Y. Fukui, T. Iwata, S. Nozawa, & T. Takano.* 356, 184, 101-D1 (1990)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

TAKANO, TOSHIAKI. Enhancement of CS in the High-Velocity Wind Emission in NGC 2071. *Toshiaki Takano.* 300, L85, 13-F8 (1986)

Temperature Determination of Surrounding Molecular Clouds in Bipolar Flow Sources. *Toshiaki Takano.* 303, 349, 44-G11 (1986)

Aperture Synthesis Observations of NH_3 in OMC-1: Filamentary Structures around Orion-KL. *Yasuhiro Murata, Ryohei Kawabe, Masato Ishiguro, Koh-Ichiro Morita, Takashi Kasuga, Toshiaki Takano, & Tetsuo Hasegawa.* 359, 125, 135-E9 (1990)

TAKAYANAGI, K. Para/Ortho Abundance Ratio of Molecular Hydrogen in NGC 2023. *K. Takayanagi, K. Sakimoto, & K. Onda.* 318, L81, 92-E2 (1987)

TAKEI, H. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori,*

M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang. 359, 574, 143-B6 (1990)

TAKEO, H. A New Interstellar Polyatomic Molecule: Detection of Propynal in the Cold Cloud TMC-1. *W. M. Irvine, R. D. Brown, D. M. Cragg, P. Friberg, P. D. Godfrey, N. Kaifu, H. E. Matthews, M. Ohishi, H. Suzuki, & H. Takeo.* 335, L89, 185-E11 (1988)

TAKEO, HARUTOSHI. Laboratory Microwave Spectrum of $^{13}CH_3OH$. *Hirotada Kuriyama, Kojiro Takagi, Harutoshi Takeo, & Chi Matsumura.* 311, 1073, 159-E9 (1986)

TAKESHIMA, TOSHIAKI. Dust-Grain Scattering of X-Rays Observed during the Lunar Occultation of a Transient X-Ray Source near the Galactic Center. *Kazuhisa Mitsuda, Toshiaki Takeshima, Tsuneo Kii, & Nobuyuki Kawai.* 353, 480, 70-A6 (1990)

TAKEUCHI, Y. Discovery of a Peculiar X-Ray Pulsar GS 1843+00. *K. Koyama, M. Kawada, Y. Takeuchi, Y. Tawara, N. Ushimaru, T. Dotani, & M. Takizawa.* 356, L47, 110-B11 (1990)

TAKITA, M. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

TAKIZAWA, M. Discovery of a Peculiar X-Ray Pulsar GS 1843+00. *K. Koyama, M. Kawada, Y. Takeuchi, Y. Tawara, N. Ushimaru, T. Dotani, & M. Takizawa.* 356, L47, 110-B11 (1990)

TALAVERA, A. Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)

TALAVERA, ANTONIO. Short-Term Spectral Variability in AB Aurigae: Clues for Activity in Herbig Ae Stars. II. The Ca II K Line. *Claude Catala, Paul Felenbok, Jean Czarny, Antonio Talavera, & Ann Merchant Boesgaard.* 308, 791, 117-E9 (1986)

TALBI, D. A Tentative Interpretation for the Difference in the Abundance Ratios HCO^+/CO and HCS^+/CS in Interstellar Space. *D. Talbi, A. P. Hickman, F. Pauzat, Y. Ellinger, & G. Berthier.* 339, 231, 52-G1 (1989)

TALIN, B. Partial Redistribution in High-Density, Highly Ionized Plasmas. *B. Talin, R. Stamm, V. P. Kaftandjian, & Lewis Klein.* 322, 804, 148-E12 (1987)

TALON, R. Short Solar Events with Evidence of Repetitive Structures. *Upendra D. Desai, Chryssa Kouveliotou, C. Barat, K. Hurley, M. Niel, R. Talon, G. Vedrenne, I. V. Estulin, & V. Ch. Dolidze.* 319, 567, 99-E1 (1987)

TAMANAHA, CHRISTOPHER M. The White Dwarf Luminosity Function: A Possible Probe of the Galactic Halo. *Christopher M. Tamanaha, Joseph Silk, M. A. Wood, & D. E. Winget.* 358, 164, 124-A12 (1990)

TAMMANN, G. A. The Hubble Constant from Pritchet and van den Bergh's Nova Distance to the Virgo Cluster. *Allan Sandage & G. A. Tammann.* 328, 1, 62-A7 (1988)

21 Centimeter Line Width Distances of Cluster Galaxies and the Value of H_0. *R. C. Kraan-Korteweg, L. M. Cameron, & G. A. Tammann.* 331, 620, 115-E10 (1988)

Steps toward the Hubble Constant. IX. The Cosmic Value of H_0 Freed from All Local Velocity Anomalies. *Allan Sandage & G. A. Tammann.* 365, 1, 206-B1 (1990)

TAMRES, D. Impact Line Linear Polarization as a Diagnostic of 100 keV Proton Acceleration in Solar Flares. *J. C. Hénoux, G. Chambe, D. Smith, D. Tamres, N. Feautrier, M. Rovira, & S. Sahal-Bréchot.* 73, 303, 21-G11 (1990)

Coronal Proton Transport in the Presence of Alfvén Waves and Implications for Impact Line Linear Polarization. *D. F. Smith, G. Chambe, J. C. Hénoux, & D. Tamres.* 358, 674, 132-A1 (1990)

TAMRES, DAVID H. Beam-induced Pressure Gradients in the Early Phase of Proton-heated Solar Flares. *David H. Tamres, Richard C. Canfield, & A. N. McClymont.* 309, 409, 124-C14 (1986)

On the Stability of Proton Beams against Resonant Scattering by Alfvén Waves in Solar Flare Loops. *David H. Tamres, D. B. Melrose, & Richard C. Canfield.* 342, 576, 107-G1 (1989)

TAMURA, M. Discovery of a Reflection Dust Envelope around IRC +10216. *M. Tamura, T. Hasegawa, N. Ukita, I. Gatley, I. S. McLean, M. G. Burton, J. T. Rayner, & M. J. McCaughrean.* 326, L17, 38-B9 (1988)

TAMURA, MOTOHIDE. A New CO Bipolar Flow and Dense Disk System Associated with the Infrared Reflection Nebula GGD 27 IRS. *Takuya Yamashita, Hiroko Suzuki, Norio Kaifu, Motohide Tamura, Charles M. Mountain, & Toby J. T. Moore.* 347, 894, 194-E7 (1989)

CO Outflow and Infrared Reflection Nebula of GSS 30 in the Rho Ophiuchi Core. *Motohide Tamura, Shuji Sato, Hiroko Suzuki, Norio Kaifu, & Jim H. Hough.* 350, 728, 35-B1 (1990)

TAMURA, S. Expanding Molecular Torus around the Planetary Nebula IRAS 21282+5050. *K. M. Shibata, S. Tamura, S. Deguchi, N. Hirano, O. Kameya, & T. Kasuga.* 345, L55, 157-E9 (1989)

TAN, J. *Ginga* Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

TAN, L. C. Seed Population for ~1 MeV per Nucleon Heavy Ions Accelerated by Interplanetary Shocks. *L. C. Tan, G. M. Mason, B. Klecker, & D. Hovestadt.* 345, 572, 156-B7 (1989)

TANABÉ, T. Water Maser Emission toward V788 Cygni, a Carbon Star. *Y. Nakada, H. Izumiura, T. Onaka, O. Hashimoto, N. Ukita, S. Deguchi, & T. Tanabé.* 323, L77, 158-F6 (1987)

TANABÉ, TOSHIHIKO. Mass Spectra of Sputtered Polyoxymethylene: Implications for Comets. *Marla H. Moore & Toshihiko Tanabé.* 365, L39, 212-D11 (1990)

TANAHASHI, G. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

TANAKA, K. Transient Ionization and Solar Flare X-Ray Spectra. *G. A. Doschek & K. Tanaka.* 323, 799, 163-E1 (1987)

TANAKA, MASUO. Infrared Spectroscopy of Interstellar Molecular Hydrogen: Decomposition of Thermal and Fluorescent Components. *Masuo Tanaka, Tetsuo Hasegawa, Saeko S. Hayashi, Peter W. J. L. Brand, & Ian Gatley.* 336, 207, 3-F3 (1989)

Three Micron Ice-Band Features in the ρ Ophiuchi Sources. *Masuo Tanaka, Shuji Sato, Tetsuya Nagata, & Tetsuo Yamamoto.* 352, 724, 60-A3 (1990)

Infrared Images of Ionized and Molecular Hydrogen Emission in S106. *Saeko S. Hayashi, Tetsuo Hasegawa, Masuo Tanaka, Masahiko Hayashi, Colin Aspin, Ian S. McLean, Peter W. J. L. Brand, & Ian Gatley.* 354, 242, 77-B2 (1990)

Three Micron Spectroscopy of Low-Mass Pre–Main-Sequence Stars. *Shuji Sato, Tetsuya Nagata, Masuo Tanaka, & Tetsuo Yamamoto.* 359, 192, 136-D7 (1990)

TANAKA, W. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)

Vacuum Ultraviolet Imagery of the Virgo Cluster Region. II. Total Far-Ultraviolet Flux of Galaxies. *K. Kodaira, T. Watanabe, T. Onaka, & W. Tanaka.* 363, 422, 189-D1 (1990)

TANAKA, Y. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)

Ginga Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs,*

W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin. 350, 395, 29-G7 (1990)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

TANANBAUM, H. X-Ray Observations of the Bright Quasar Survey. *H. Tananbaum, Y. Avni, Richard F. Green, Maarten Schmidt, & G. Zamorani.* 305, 57, 67-E7 (1986)

X-Ray Properties of Optically Selected QSOs. *Y. Avni & H. Tananbaum.* 305, 83, 67-G5 (1986)

X-Ray Studies of Quasars with the *Einstein Observatory*. IV. X-Ray Dependence on Radio Emission. *D. M. Worrall, P. Giommi, H. Tananbaum, & G. Zamorani.* 313, 596, 23-C9 (1987)

TANDBERG-HANSSEN, E. Induced Mass and Wave Motions in the Lower Solar Atmosphere. II. Effects of Converging and Diverging Photospheric Motions. *S. T. Wu, Y. Q. Hu, Y. Nakagawa, & E. Tandberg-Hanssen.* 306, 751, 92-F9 (1986)

Dynamic Evolution of the Transition-Zone Plasma in Solar Flares and Active Region Transients. *Chung-Chieh Cheng & E. Tandberg-Hanssen.* 309, 421, 124-D12 (1986)

The Lyman-Alpha Line in Various Solar Features. I. Observations. *J. Fontenla, E. J. Reichmann, & E. Tandberg-Hanssen.* 329, 464, 80-B11 (1988)

Temporal Correlations between Impulsive Ultraviolet and Hard X-Ray Bursts in Solar Flares Observed with High Time Resolution. *Chung-Chieh Cheng, K. Vanderveen, L. E. Orwig, & E. Tandberg-Hanssen.* 330, 480, 95-F1 (1988)

The Effect of the Solenoidal Condition on the Numerical Magnetohydrodynamic Simulation of Coronal Dynamics. *S. T. Wu, M. Dryer, R. S. Steinolfson, & E. Tandberg-Hanssen.* 333, 386, 142-C8 (1988)

Ultraviolet Events Observed in Active Regions. I. Observations and Scenario. *J. M. Fontenla, E. Tandberg-Hanssen, E. J. Reichmann, & Sharon Filipowski.* 344, 1034, 146-G1 (1989)

Evaporation in the Transition Region during the Gradual Phase of Flares. *B. Schmieder, J. M. Malherbe, G. M. Simnett, T. G. Forbes, & E. Tandberg-Hanssen.* 356, 720, 109-B9 (1990)

TANDON, J. N. On Multimode Pulsations of Degenerate Stellar Models. *M. K. Das, Harinder Pal Singh, & J. N. Tandon.* 346, 289, 169-F7 (1989)

TANDON, S. N. Far-Infrared (120–300 Micron) Observations of the Carina Nebula. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 330, 928, 102-F6 (1988)

Far-Infrared (120–300 Micron) Observations of Southern H II Regions. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 69, 233, 4-D1 (1989)

Far-Infrared and Radio Observations of the W31 Star-forming Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, R. R. Daniel, & Paul T. P. Ho.* 347, 338, 186-C3 (1989)

Far-Infrared Observations of G351.6–1.3/G351.7–1.2 Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 353, 564, 71-A1 (1990)

TANG, FRANCES. Optical Properties of Impulsive Flares. *Harold Zirin & Frances Tang.* 73, 111, 19-B1 (1990)

TANG, KWOK-KWONG. Cosmic-Ray Positrons from 10 to 20 GeV: A Balloon-borne Measurement Using the Geomagnetic East-West Asymmetry. *Dietrich Müller & Kwok-kwong Tang.* 312, 183, 3-A4 (1987)

TANG, MING. Interstellar Silicon Carbide: How Much Older than the Solar System? *Ming Tang & Edward Anders.* 335, L31, 177-C10 (1988)

TANGREN, WILLIAM. MAP-based Trigonometric Parallaxes of Open Clusters: The Pleiades. *George Gatewood, Michael Castelaz, Inwoo Han, Timothy Persinger, John Stein, Bruce Stephenson, & William Tangren.* 364, 114, 195-D5 (1990)

TANIGUCHI, YOSHIAKI. NGC 3928: A Highly Bulge-dominated Compact Spiral Galaxy. *Yoshiaki Taniguchi & Masaaki Watanabe.* 313, 89, 16-A5 (1987)

Blueward Asymmetical Emission-Line Profiles of a Starburst-Nucleus Galaxy Markarian 52. *Yoshiaki Taniguchi.* 317, L57, 78-B6 (1987)

[Fe II] 1.644 Micron Emission Line in Seyfert and Starburst Galaxies. *Kimiaka Kawara, Minoru Nishida, & Yoshiaki Taniguchi.* 328, L41, 74-D6 (1988)

A Linear Correlation between H_2 $v = 1$–0 $S(1)$ and [O I] 6300 Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Yoshiaki Taniguchi, Kimiaki Kawara, & Minoru Nishida.* 346, L73, 181-C10 (1989)

A Relation between H_2 $v = 1$–0 $S(1)$ and 3.28 Micron Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Kimiaki Kawara, Yoshiaki Taniguchi, & Minoru Nishida.* 356, L39, 110-B1 (1990)

Circumnuclear Molecular Gas in Seyfert Galaxies. *Yoshiaki Taniguchi, Osamu Kameya, Naomasa Nakai, & Kimiaki Kawara.* 358, 132, 123-E10 (1990)

Excitation Mechanism of [Fe II] 1.644 Micron Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri, Minoru Nishida, Yoshiaki Taniguchi, & Kimiaki Kawara.* 360, 55, 145-F8 (1990)

CO Emission from the Nucleus of Infrared Galaxy NGC 4418: An Early AGN Phase? *Kimiaki Kawara, Yoshiaki Taniguchi, Naomasa Nakai, & Yoshiaki Sofue.* 365, L1, 212-A5 (1990)

TANIMORI, T. Upper Limit for Ultra-High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

TANZI, E. G. Variability of the BL Lacertae Objects PKS 2155–304 and OJ 287 in the Far-Ultraviolet. *L. Maraschi, G. Tagliaferri, E. G. Tanzi, & A. Treves.* 304, 637, 63-A9 (1986)

X-Ray Variability of the BL Lacertae Object PKS 2155–304 in the 0.1–6 keV Range. *M. Morini, L. Chiappetti, D. Maccagni, L. Maraschi, D. Molteni, E. G. Tanzi, A. Treves, & A. Wolter.* 306, L71, 93-G5 (1986)

Spectral Properties of Blazars. I. Objects Observed in the Far-Ultraviolet. *G. Ghisellini, L. Maraschi, E. G. Tanzi, & A. Treves.* 310, 317, 135-D12 (1986)

Spectral Properties of Blazars. II. An X-Ray Observed Sample. *L. Maraschi, G. Ghisellini, E. G. Tanzi, & A. Treves.* 310, 325, 135-E7 (1986)

Multifrequency Observations of the Blazar PKS 0537–441 in a Moderately Active State. *E. G. Tanzi, P. Barr, P. Bouchet, L. Chiappetti, S. Christiani, R. Falomo, P. Giommi, L. Maraschi, & A. Treves.* 311, L13, 152-B7 (1986)

The Redshift of the BL Lacertae Object PKS 2005–489. *R. Falomo, L. Maraschi, E. G. Tanzi, & A. Treves.* 318, L39, 92-B1 (1987)

X-Ray Spectrum and Variability of the Black Hole Candidate LMC X-3. *A. Treves, T. Belloni, L. Chiappetti, L. Maraschi, L. Stella, E. G. Tanzi, & M. van der Klis.* 325, 119, 20-D8 (1988)

The X-Ray to Infrared Energy Distribution of the Quasar PG 0026+129. *A. Treves, P. Bouchet, L. Chiappetti, A. Ciapi, R. Falomo, L. Maraschi, & E. G. Tanzi.* 330, 178, 92-A3 (1988)

Detection of Extragalactic Absorption in the Ultraviolet Spectrum of the BL Lacertae Object PKS 2155–304. *L. Maraschi, J. C. Blades, C. Calanchi, E. G. Tanzi, & A. Treves.* 333, 660, 147-D1 (1988)

Quasi-simultaneous Ultraviolet Optical and Infrared Observations of the BL Lacertae Object PKS 0048–09. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 335, 122, 171-F1 (1988)

The Ultraviolet-Optical-Infrared Energy Distribution of LMC X-3: Observation of an Accretion Disk around a Black Hole. *A. Treves, T. Belloni, P. Bouchet, L. Chiappetti, R. Falomo, L. Maraschi, & E. G. Tanzi.* 335, 142, 172-A1 (1988)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of the BL Lacertae Object PKS 2155–304. *A. Treves, M. Morini, L. Chiappetti, A. Fabian, R. Falomo, D. Maccagni, L. Maraschi, E. G. Tanzi, & G. Tagliaferri.* 341, 733, 94-D5 (1989)

X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215–086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

The Ultraviolet to Infrared Energy Distribution of the BL Lacertae Object PKS 0422+00 at Two Different Brightness Levels. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 345, 148, 150-G9 (1989)

X-Ray and Ultraviolet Observations of the Seyfert Galaxy MCG 8-11-11. *A. Treves, G. Bonelli, L. Chiappetti, R. Falomo, L. Maraschi, G. Tagliaferri, & E. G. Tanzi.* 359, 98, 135-C7 (1990)

EXOSAT Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)

TAPIA, S. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

H0538+608: A Bright AM Herculis–Type X-Ray Source. *R. A. Remillard, H. V. Bradt, J. E. McClintock, J. Patterson, W. Roberts, D. A. Schwartz, & S. Tapia.* 302, L11, 35-A13 (1986)

1E 1415.6+2557: An X-Ray–Selected BL Lacertae Object in a Luminous Galaxy. *J. P. Halpern, C. D. Impey, G. D. Bothun, S. Tapia, E. D. Skillman, A. S. Wilson, & E. J. A. Meurs.* 302, 711, 38-D5 (1986)

Polarimetic Observations of the WN7 Binary CQ Cephei. *L. Drissen, A. F. J. Moffat, P. Bastien, R. Lamontagne, & S. Tapia.* 306, 215, 83-E12 (1986)

New Blazars Discovered by Polarimetry. *C. D. Impey & S. Tapia.* 333, 666, 147-D7 (1988)

Two X-Ray–selected BL Lacertae Objects Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, I. R. Tuohy, R. J. V. Brissenden, D. A. H. Buckley, D. A. Schwartz, E. D. Feigelson, & S. Tapia.* 345, 140, 150-F11 (1989)

The Miniblazar in 3C 273. *C. D. Impey, M. A. Malkan, & S. Tapia.* 347, 96, 183-C9 (1989)

The Optical Polarization Properties of Quasars. *C. D. Impey & S. Tapia.* 354, 124, 75-E5 (1990)

TAPIA, SANTIAGO. Polarization Variability among Wolf-Rayet Stars. I. Linear Polarization of a Complete Sample of Southern Galactic WC Stars. *Nicole St-Louis, Laurent Drissen, Anthony F. J. Moffat, Pierre Bastien, & Santiago Tapia.* 322, 870, 149-C13 (1987)

The Orbital Inclination of Cygnus XR-1 Measured Polarimetrically. *Joseph F. Dolan & Santiago Tapia.* 344, 830, 144-E7 (1989)

TAPPING, K. F. Compact Sites of Microwave Emission at 2.8 Centimeter Wavelength inside Solar Active Regions. *V. Gaizauskas & K. F. Tapping.* 325, 912, 30-E8 (1988)

TARAFDAR, S. P. Effect of Balmer Continuum Absorption on Line Emission from Be Stars. *Krishna M. V. Apparao & S. P. Tarafdar.* 322, 976, 150-E7 (1987)

OH and CH Continuous Opacity in Solar and Stellar Atmospheres. *Robert L. Kurucz, Ewine F. van Dishoeck, & S. P. Tarafdar.* 322, 992, 150-F13 (1987)

Einstein X-Ray Observations of Planetary Nebulae and Their Implications. *S. P. Tarafdar & K. M. V. Apparao.* 327, 342, 50-F10 (1988)

A Unified Formula for Mass-Loss Rate of O to M Stars. *S. P. Tarafdar.* 331, 932, 119-C1 (1988)

Optical and Ultraviolet Line and Continuum Emission from the Large Magellanic Cloud X-Ray Be Star A0538–66. *K. M. V. Apparao & S. P. Tarafdar.* 335, 147, 172-A6 (1988)

Einstein X-Ray Observations of Planetary Nebulae and Their Implications: Addendum. *S. P. Tarafdar & K. M. V. Apparao.* 343, 1007, 131-E4 (1989) (Orig. paper in 327, 342, 50-F10 (1988))

Observation of an Hα Outburst in the Be Star HR 4123. *K. K. Ghosh, K. M. V. Apparao, & S. P. Tarafdar.* 344, 437, 138-D1 (1989)

X-Ray Observations of Planetary Nebulae with the *EXOSAT* Satellite. *Krishna M. V. Apparao & S. P. Tarafdar.* 344, 826, 144-E1 (1989)

TARBELL, T. D. High-Resolution Observations of Changing Magnetic Features on the Sun. *K. P. Topka, T. D. Tarbell, & A. M. Title.* 306, 304, 84-F3 (1986)

On the Relation between Magnetic Field Structures and Granulation. *A. M. Title, T. D. Tarbell, & K. P. Topka.* 317, 892, 75-G3 (1987)

On the Relation between Photospheric Flow Fields and the Magnetic Field Distribution on the Solar Surface. *George W. Simon, A. M. Title, K. P. Topka, T. D. Tarbell, R. A. Shine, S. H. Ferguson, H. Zirin, & The SOUP Team.* 327, 964, 59-C1 (1988)

Statistical Properties of Solar Granulation Derived from the SOUP Instrument on *Spacelab 2*. *A. M. Title, T. D. Tarbell, K. P. Topka, S. H. Ferguson, R. A. Shine, & The SOUP Team.* 336, 475, 7-A10 (1989)

TARENGHI, MASSIMO. Observations of the Nebulosities near SN 1987A. *E. Joseph Wampler, Lifan Wang, Dietrich Baade, Klaus Banse, Sandro D'Odorico, Christian Gouiffes, & Massimo Tarenghi.* 362, L13, 174-B9 (1990)

TARLÉ, G. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

TARQUINI, GIUSEPPE. The Dynamical Evolution of Clusters of Galaxies. *Alfonso Cavaliere, Paolo Santangelo, Giuseppe Tarquini, & Nicola Vittorio.* 305, 651, 76-A7 (1986)

TARRAGO, G. Detection of Arsine in Saturn. *B. Bézard, P. Drossart, E. Lellouch, G. Tarrago, & J.-P. Maillard.* 346, 509, 172-D11 (1989)

TARTER, J. C. A Cloud Collision Model for Water Maser Excitation. *J. C. Tarter & William J. Welch.* 305, 467, 72-C4 (1986)

TASH, JONATHAN. Interpretation and Implications of Diameter and Differential Radius Observations of the 160 Minute Period Solar Oscillation. *Henry A. Hill, Jonathan Tash, & Clem Padin.* 304, 560, 60-A9 (1986)

TASHIRO, M. Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

TASSOUL, JEAN-LOUIS. Meridional Circulation in Rotating Stars. IX. The Effects of an Axisymmetric Magnetic Field in Early-Type Stars. *Jean-Louis Tassoul & Monique Tassoul.* 310, 786, 142-E2 (1986)

Meridional Circulation in Rotating Stars. X. The Unsteady Oblique-Rotator Model. *Jean-Louis Tassoul & Monique Tassoul.* 310, 805, 142-F7 (1986)

On Synchronization in Early-Type Binaries. *Jean-Louis Tassoul.* 322, 856, 149-B12 (1987)

On Orbital Circularization in Detached Close Binaries. *Jean-Louis Tassoul.* 324, L71, 18-D5 (1988)

Is There a Magnetic Field That Can Enforce Almost Uniform Rotation in a Stellar Radiative Zone? *Monique Tassoul & Jean-Louis Tassoul.* 345, 472, 155-A6 (1989)

On Orbital Circularization in Massive Close Binaries. *Jean-Louis Tassoul.* 358, 196, 124-E1 (1990)

A Time-dependent Model for Synchronization in Close Binaries. *Jean-Louis Tassoul & Monique Tassoul.* 359, 155, 136-A5 (1990)

TASSOUL, M. Asymptotic Approximations for Higher Order Nonradial Oscillations of a Spherically Symmetric Star. *P. Smeyers & M. Tassoul.* 65, 429, 34-B11 (1987)

Evolutionary Models for Pulsation Studies of White Dwarfs. *M. Tassoul, G. Fontaine, & D. E. Winget.* 72, 335, 6-F9 (1990)

TASSOUL, MONIQUE. Meridional Circulation in Rotating Stars. IX. The Effects of an Axisymmetric Magnetic Field in Early-Type Stars. *Jean-Louis Tassoul & Monique Tassoul.* 310, 786, 142-E2 (1986)

Meridional Circulation in Rotating Stars. X. The Unsteady Oblique-Rotator Model. *Jean-Louis Tassoul & Monique Tassoul.* 310, 805, 142-F7 (1986)

Is There a Magnetic Field That Can Enforce Almost Uniform Rotation in a Stellar Radiative Zone? *Monique Tassoul & Jean-Louis Tassoul.* 345, 472, 155-A6 (1989)

Second-Order Asymptotic Approximations for Stellar Nonradial Acoustic Modes. *Monique Tassoul.* 358, 313, 126-A4 (1990)

A Time-dependent Model for Synchronization in Close Binaries. *Jean-Louis Tassoul & Monique Tassoul.* 359, 155, 136-A5 (1990)

TATEMATSU, KEN'ICHI. A Further Study of the Molecular Cloud Associated with the Supernova Remnant G109.1−1.0. *Ken'ichi Tatematsu, Yasuo Fukui, Takahiro Iwata, Frederick D. Seward, & Makoto Nakano.* 351, 157, 40-A4 (1990)

TATEMATSU, YOSHINORI. Magnetohydrodynamic Flows in Kerr Geometry: Energy Extraction from Black Holes. *Masaaki Takahashi, Shinya Nitta, Yoshinori Tatematsu, & Akira Tomimatsu.* 363, 206, 184-F4 (1990)

TATUM, J. B. Structure and Intensities of Microwave Lines in the Spectra of Diatomic Molecules. *J. B. Tatum.* 60, 433, 6-D2 (1986)

TAUBER, J. A. 1.4 Millimeter H_2CO Observations of NGC 2071. *J. A. Tauber, Paul F. Goldsmith, & Ronald L. Snell.* 325, 846, 29-G3 (1988)

TAUBER, JAN A. A Model for Clumpy Giant Molecular Clouds with External Ultraviolet Heating. *Jan A. Tauber & Paul F. Goldsmith.* 356, L63, 110-D1 (1990)

TAVANI, M. Accretion Turnoff and Rapid Evaporation of Very Light Secondaries in Low-Mass X-Ray Binaries. *M. Ruderman, J. Shaham, & M. Tavani.* 336, 507, 7-E1 (1989)

Late Evolution of Very Low Mass X-Ray Binaries Sustained by Radiation from Their Primaries. *M. Ruderman, J. Shaham, M. Tavani, & D. Eichler.* 343, 292, 121-G1 (1989)

TAVANI, MARCO. Self-sustained Strong Mass Transfer without Roche Lobe Overflow: Cygnus X-3. *Marco Tavani, Malvin Ruderman, & Jacob Shaham.* 342, L31, 109-C8 (1989)

TAWARA, Y. *Ginga* Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

Discovery of a Peculiar X-Ray Pulsar GS 1843+00. *K. Koyama, M. Kawada, Y. Takeuchi, Y. Tawara, N. Ushimaru, T. Dotani, & M. Takizawa.* 356, L47, 110-B11 (1990)

Ginga Observations of X-Rays from the Seyfert I Galaxy Markarian 509. *K. P. Singh, N. J. Westergaard, H. W. Schnopper, H. Awaki, & Y. Tawara.* 363, 131, 183-F10 (1990)

Optically Thin Hot Plasma near the Galactic Center: Mapping Observations of the 6.7 keV Iron Line. *S. Yamauchi, M. Kawada, K. Koyama, H. Kunieda, & Y. Tawara.* 365, 532, 214-G5 (1990)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

TAYAL, S. S. Oscillator Strengths for Allowed and Intercombination Electric Dipole Transitions in Fe XII. *S. S. Tayal & Ronald J. W. Henry.* 302, 200, 30-B4 (1986)

Effective Collision Strengths for Electron Impact Excitation in S II. *S. S. Tayal, J. W. Henry, & S. Nakazaki.* 313, 487, 20-C10 (1987)

Electron Excitation of Fine-Structure Transitions within the Ground $3s^23p^3$ Configuration in Fe XII. *S. S. Tayal, Ronald J. W. Henry, & A. K. Pradhan.* 319, 951, 105-C13 (1987)

Electron Density–sensitive Line Ratios for Fe XII in the Solar Corona. *S. S. Tayal & Ronald J. W. Henry.* 329, 1023, 88-C8 (1988)

Electron Density Diagnostics of Fe XII in the Solar Plasma. *S. S. Tayal, Ronald J. W. Henry, F. P. Keenan, S. M. McCann, & K. G. Widing.* 343, 1004, 131-E1 (1989)

TAYLOR, A. R. Radio Observations of the 1985 Outburst of RS Ophiuchi. *R. M. Hjellming, J. H. van Gorkom, E. R. Seaquist, A. R. Taylor, S. Padin, R. J. Davis, & M. F. Bode.* 305, L71, 80-D9 (1986)

A Detailed Analysis of the Radio Emission from the Symbiotic Star RX Puppis. *E. R. Seaquist & A. R. Taylor.* 312, 813, 11-G1 (1987)

Evidence for Ram Pressure Stripping of NGC 3073 by Outflowing Gas from NGC 3079. *Judith A. Irwin, E. R. Seaquist, A. R. Taylor, & N. Duric.* 313, L91, 27-E3 (1987)

A Radio Survey of Symbiotic Stars: Erratum. *E. R. Seaquist, A. R. Taylor, & S. Sutton.* 317, 555, 70-A5 (1987) (Orig. paper in 284, 202, 100-C7 (1984))

VLA Observations of Circumnebular Neutral Hydrogen in IC 418. *A. R. Taylor, G. T. Gussie, & W. M. Goss.* 340, 932, 80-A6 (1989)

The Collective Radio Properties of Symbiotic Stars. *E. R. Seaquist & A. R. Taylor.* 349, 313, 17-F9 (1990)

Circumnebular Neutral Hydrogen in Planetary Nebulae. *A. R. Taylor, G. T. Gussie, & S. R. Pottasch.* 351, 515, 46-E1 (1990)

TAYLOR, ANTHONY H. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

Bounds on Dark Matter in Solar Orbit. *John D. Anderson, Eunice L. Lau, Anthony H. Taylor, Duane A. Dicus, Doris C. Teplitz, & Vigdor L. Teplitz.* 342, 539, 107-C13 (1989)

TAYLOR, B. G. *EXOSAT* Observations of the Tycho Supernova Remnant. *A. Smith, J. Davelaar, A. Peacock, B. G. Taylor, M. Morini, & N. R. Robba.* 325, 288, 22-C7 (1988)

TAYLOR, BENJAMIN J. Transformation Equations and Other Aids for *VRI* Photometry. *Benjamin J. Taylor.* 60, 577, 8-E2 (1986)

DDO, Cousins *R–I*, and Photomultiplier Scanner Data for an Analysis of Very Strong Lined K Giants. *Scott B. Johnson, Michael D. Joner, & Benjamin J. Taylor.* 63, 983, 16-B1 (1987)

The "Alternative X" Question: What Causes the Strong Molecular Bands and Damping Lines in the Very Strong Lined (Super–Metal-rich) Stars? *Benjamin J. Taylor & Scott B. Johnson.* 322, 930, 150-B2 (1987)

TAYLOR, DAVID K. Molecular Clouds and the Gould Belt. *David K. Taylor, R. L. Dickman, & N. Z. Scoville.* 315, 104, 41-B5 (1987)

A Reassessment of the Double Isotope Ratio $[^{13}CO]/[C^{18}O]$ in Molecular Clouds. *David K. Taylor & R. L. Dickman.* 341, 293, 87-E2 (1989)

TAYLOR, G. B. VLA Observations of the Radio Galaxy Hydra A (3C 218). *G. B. Taylor, R. A. Perley, M. Inoue, T. Kato, H. Tabara, & K. Aizu.* 360, 41, 145-E5 (1990)

TAYLOR, GREGORY B. Effects of a Hot Intergalactic Medium. *Gregory B. Taylor & Edward L. Wright.* 339, 619, 59-E8 (1989)

TAYLOR, J. H. Results of Two Surveys for Fast Pulsars. *G. H. Stokes, D. J. Segelstein, J. H. Taylor, & R. J. Dewey.* 311, 694, 155-D1 (1986)

Period Derivative of the Millisecond Pulsar in Globular Cluster M28. *R. S. Foster, D. C. Backer, J. H. Taylor, & W. M. Goss.* 326, L13, 38-B5 (1988)

Fundamental Astrometry and Millisecond Pulsars. *L. A. Rawley, J. H. Taylor, & M. M. Davis.* 326, 947, 44-A1 (1988)

Period Derivatives and Improved Parameters for 66 Pulsars. *R. J. Dewey, J. H. Taylor, C. M. Maguire, & G. H. Stokes.* 332, 762, 132-G1 (1988)

Improved Parameters for Four Binary Pulsars. *J. H. Taylor & R. J. Dewey.* 332, 770, 133-A1 (1988)

Further Experimental Tests of Relativistic Gravity Using the Binary Pulsar PSR 1913+16. *J. H. Taylor & J. M. Weisberg.* 345, 434, 154-E3 (1989)

Evidence for Geodetic Spin Precession in the Binary Pulsar PSR 1913+16. *J. M. Weisberg, R. W. Romani, & J. H. Taylor.* 347, 1030, 196-C13 (1989)

The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

Observations of the Eclipsing Binary Pulsar in Terzan 5. *D. J. Nice, S. E. Thorsett, J. H. Taylor, & A. S. Fruchter.* 361, L61, 168-D7 (1990)

TAYLOR, K. Detailed Study of the Barred Spiral Galaxy NGC 4027. II. Internal Kinematics. *W. D. Pence, K. Taylor, K. C. Freeman, G. de Vaucouleurs, & P. Atherton.* 326, 564, 39-F6 (1988)

Photometry and Gas Kinematics of the Spiral Galaxy NGC 1566. *W. D. Pence, K. Taylor, & P. Atherton.* 357, 415, 117-F11 (1990)

TAYLOR, M. A Rotating, Expanding Disk in the Wolf-Rayet Star EZ Canis Majoris? *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. A. Nook, A. M. Magalhães, M. Taylor, K. S. Bjorkman, & C. M. Anderson.* 365, L19, 212-C1 (1990)

TAYLOR, PETER R. Theoretical Study of the Dissociation Energy and the Red and Violet Band Systems of CN. *Charles W. Bauschlicher, Jr., Stephen R. Langhoff, & Peter R. Taylor.* 332, 531, 128-G11 (1988)

TEAGUE, PETER F. The Dynamics and Structure of Rich Clusters of Galaxies. I. Velocity Data. *Peter F. Teague, David Carter, & Peter M. Gray.* 72, 715, 13-B1 (1990)

TEAYS, TERRY J. The Chromosphere of Beta Cassiopeiae. *Terry J. Teays, Edward G. Schmidt, Massimo Fracassini, & Laura E. Pasinetti Fracassini.* 343, 916, 130-E4 (1989)

TEEGARDEN, B. A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

TEEGARDEN, B. J. Gamma-Ray Burster Counterparts: Infrared. *Bradley E. Schaefer, T. L. Cline, U. Desai, B. J. Teegarden, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, I. V. Estulin, & A. V. Kuznetsov.* 313, 226, 17-D9 (1987)

Gamma-Ray Burster Counterparts: Radio. *Bradley E. Schaefer, Thomas L. Cline, J.-L. Atteia, C. Barat, U. D. Desai, I. V. Estulin, W. D. Evans, E. E. Fenimore, K. Hurley, R. W. Klebesadel, A. V. Kuznetsov, J. G. Laros, N. Niel, & B. J. Teegarden.* 340, 455, 72-G9 (1989)

Observations of Gamma-Ray Line Profiles from SN 1987A. *J. Tueller, S. Barthelmy, N. Gehrels, B. J. Teegarden, M. Leventhal, & C. J. MacCallum.* 351, L41, 49-D1 (1990)

TEERIKORPI, P. The Malmquist Bias in the Extragalactic Distance Scale: Controversies and Misconceptions. *L. Bottinelli, L. Gouguenheim, G. Paturel, & P. Teerikorpi.* 328, 4, 62-A10 (1988)

TEGLER, STEPHEN. Abundances in Comet Halley at the Time of the Spacecraft Encounters. *Susan Wyckoff, Stephen Tegler, Peter A. Wehinger, Hyron Spinrad, & Michael J. S. Belton.* 325, 927, 30-F9 (1988)

NH_2 Fluorescence Efficiencies and the NH_3 Abundance in Comet Halley. *Stephen Tegler & Susan Wyckoff.* 343, 445, 123-E8 (1989)

TEGLER, STEPHEN C. Spectrophotometry of Comets Giacobini-Zinner and Halley. *Stephen C. Tegler & C. R. O'Dell.* 317, 987, 77-A2 (1987)

TEKEUCHI, HIDEO. Viscosity of Dense Matter. *Naoki Itoh, Yasuharu Kohyama, & Hideo Tekeuchi.* 317, 733, 74-A13 (1987)

TELESCO, C. M. Very Extended Infrared Emission at the Center of M51: The Role of Star Formation. *C. M. Telesco, R. Decher, & Ian Gatley.* 302, 632, 37-E3 (1986)

Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher, H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina.* 310, L61, 138-E4 (1986)

Star Formation in Active Dwarf Galaxies. *Harley A. Thronson, Jr., & C. M. Telesco.* 311, 98, 147-B3 (1986)

Star Formation in the Magellanic Irregular Galaxy NGC 4449. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, D. A. Harper, & R. Decher.* 317, 180, 66-A3 (1987)

The Enhancement of Infrared Emission in Interacting Galaxies. *C. M. Telesco, R. D. Wolstencroft, & C. Done.* 329, 174, 76-G11 (1988)

The Infrared Structure and the Origin of the Starburst Disk in NGC 1068. *C. M. Telesco & R. Decher.* 334, 573, 162-F1 (1988)

The Magellanic Irregular Galaxy NGC 4214: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, Matthew Greenhouse, & D. A. Harper.* 334, 605, 162-A10 (1988)

The Far-Infrared Structure of the Luminous Interacting Galaxy Arp 299 (NGC 3690). *Marshall Joy, Daniel F. Lester, Paul M. Harvey, C. M. Telesco, Rudolf Decher, Lee J Rickard, & Howard Bushouse.* 339, 100, 51-C8 (1989)

Small Grains in M82: A Dusty Halo Surrounding the Starburst. *C. M. Telesco, R. Decher, & M. Joy.* 343, L13, 125-C5 (1989)

Observations of G29–38 at 10 Microns. *C. M. Telesco, M. Joy, & C. Sisk.* 358, L17, 127-C1 (1990)

High Spatial Resolution Mapping of the Cepheus A Region at 20, 50, and 100 Microns. *H. B. Ellis, Jr., D. F. Lester, P. M. Harvey, M. Joy, C. M. Telesco, R. Decher, & M. W. Werner.* 365, 287, 210-A6 (1990)

TEMI, P. Infrared Emission from Interplanetary Dust. *P. Temi, P. de Bernardis, S. Masi, G. Moreno, & A. Salama.* 337, 528, 24-B1 (1989)

TEMPLE, S. Problems with the Baade-Wesselink Method. *E. Böhm-Vitense, P. Garnavich, M. Lawler, J. Mena-Werth, S. Morgan, E. Peterson, & S. Temple.* 343, 343, 122-D4 (1989)

TEMPLE, SCOTT. High-Latitude Spot and Plage Activity on the Rapidly Rotating M Dwarf Star Gliese 890. *Arthur Young, Andrew Skumanich, Keith B. MacGregor, & Scott Temple.* 349, 608, 22-G3 (1990)

TEMPLER, M. S. Photometric Measurements of Solar Irradiance Variations Due to Sunspots. *G. A. Chapman, A. D. Herzog, D. E. Laico, J. K. Lawrence, & M. S. Templer.* 343, 547, 124-G1 (1989)

TENNANT, A. F. X-Ray Observations of *IRAS* Selected Seyfert Galaxies and Obscuration of the Broad-Line Region. *M. J. Ward, C. Done, A. C. Fabian, A. F. Tennant, & R. A. Shafer.* 324, 767, 11-F12 (1988)

TENNANT, ALLYN. Simultaneous Multifrequency Observations of Markarian 421. *Jean Brodie, Stuart Bowyer, & Allyn Tennant.* 318, 175, 80-G5 (1987)

TENNYSON, JONATHAN. Calculated Rotational and Rovibrational Transitions in the Spectrum of H_3^+. *Steven Miller & Jonathan Tennyson.* 335, 486, 176-B5 (1988)

Infrared Emissions of H_3^+ in the Atmosphere of Jupiter in the 2.1 and 4.0 Micron Region. *Steven Miller, Robert D. Joseph, & Jonathan Tennyson.* 360, L55, 156-E1 (1990)

TENNYSON, P. D. Cosmic Ultraviolet Background Radiation and Zodiacal Light. *P. D. Tennyson, R. C. Henry, P. D. Feldman, & G. F. Hartig.* 330, 435, 95-B1 (1988)

The Diffuse Far-Ultraviolet Cosmic Background Radiation Field Observed from the Space Shuttle. *J. Murthy, R. C. Henry, P. D. Feldman, & P. D. Tennyson.* 336, 954, 14-D1 (1989)

TENORIO-TAGLE, G. On the Origin of the Orion and Monoceros Molecular Cloud Complexes. *J. Franco, G. Tenorio-Tagle, P. Bodenheimer, M. Różyczka, & I. F. Mirabel.* 333, 826, 149-D1 (1988)

TENORIO-TAGLE, GUILLERMO. On the Formation and Expansion of H II Regions. *José Franco, Guillermo Tenorio-Tagle, & Peter Bodenheimer.* 349, 126, 15-E1 (1990)

TEPLITZ, DORIS C. Bounds on Dark Matter in Solar Orbit. *John D. Anderson, Eunice L. Lau, Anthony H. Taylor, Duane A. Dicus, Doris C. Teplitz, & Vigdor L. Teplitz.* 342, 539, 107-C13 (1989)

TEPLITZ, VIGDOR L. Bounds on Dark Matter in Solar Orbit. *John D. Anderson, Eunice L. Lau, Anthony H. Taylor, Duane A. Dicus, Doris C. Teplitz, & Vigdor L. Teplitz.* 342, 539, 107-C13 (1989)

TERÁN, MANUEL. Galactic Evolution with Self-regulated Star Formation: Stability of a Simple One-Zone Model. *Antonio Parravano, Patricia Rosenzweig, & Manuel Terán.* 356, 100, 100-C9 (1990)

TERASAWA, NOBUO. On the Origin of Lithium. *Hubert Reeves, Jacques Richer, Katsuhiko Sato, & Nobuo Terasawa.* 355, 18, 87-C3 (1990)

Production of ^{9}Be and Heavy Elements in the Inhomogeneous Universe. *Nobuo Terasawa & Katsuhiko Sato.* 362, L47, 181-B8 (1990)

TERASRANTA, H. Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)

TEREBEY, S. Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at $\gamma = 1.4$ Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)

High-Resolution CO Observations of Young Low-Mass Stars. *S. Terebey, S. N. Vogel, & P. C. Myers.* 340, 472, 73-B5 (1989)

Radio Continuum Observations of *IRAS* Sources Associated with Dense Cores. *L. F. Rodríguez, P. C. Myers, I. Cruz-González, & S. Terebey.* 347, 461, 187-F11 (1989)

The Circumstellar Environment of TMR-1: A Young Low-Mass Star in the Taurus Molecular Ring. *S. Terebey, C. A. Beichman, T. N. Gautier, & J. J. Hester.* 362, L63, 181-D1 (1990)

TEREBEY, SUSAN. The Size Spectrum of Molecular Clouds in the Outer Galaxy. *Susan Terebey, Michel Fich, Leo Blitz, & Christian Henkel.* 308, 357, 112-A1 (1986)

The Correlation between the *IRAS* Infrared Cirrus and Neutral Atomic Hydrogen in the Outer Galaxy. *Susan Terebey & Michel Fich.* 309, L79, 131-D13 (1986)

TEREKHOV, M. M. Neutrons and Gamma-Ray Emission on 1982 June 3: The Possibility of Fitting the Data on the Assumption of One Population of Accelerated Particles. *V. G. Guglenko, Yu. E. Efimov, G. E. Kocharov, G. A. Kovaltsov, N. Z. Mandzhavidze, M. M. Terekhov, & L. G. Kocharov.* 73, 209, 20-E9 (1990)

TEREKHOV, O. V. Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806–20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

TERLEVICH, R. J. Spectroscopy and Photometry of Elliptical Galaxies: A Large-Scale Streaming Motion in the Local Universe. *Alan Dressler, S. M. Faber, David Burstein, Roger L. Davies, Donald Lynden-Bell, R. J. Terlevich, & Gary Wegner.* 313, L37, 27-A9 (1987)

Photometry and Spectroscopy of Elliptical Galaxies. V. Galaxy Streaming toward the New Supergalactic Center. *D. Lynden-Bell, S. M. Faber, David Burstein, Roger L. Davies, Alan Dressler, R. J. Terlevich, & Gary Wegner.* 326, 19, 32-B12 (1988)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 69, 763, 12-G7 (1989)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary: Erratum. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 71, 173, 36-E7 (1989) (Orig. paper in 69, 763, 12-G7 (1989))

TERLEVICH, ROBERTO. Spectroscopy and Photometry of Elliptical Galaxies. I. New Distance Estimator. *Alan Dressler, Donald Lynden-Bell, David Burstein, Roger L. Davies, S. M. Faber, Roberto Terlevich, & Gary Wegner.* 313, 42, 15-D7 (1987)

TERLEVICH, ROBERTO J. Spectroscopy and Photometry of Elliptical Galaxies. II. The Spectroscopic Parameters. *Roger L. Davies, David Burstein, Alan Dressler, S. M. Faber, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 581, 26-B1 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. III. *UBV* Aperture Photometry, CCD Photometry, and Magnitude-related Parameters. *David Burstein, Roger L. Davies, Alan Dressler, S. M. Faber, Remington P. S. Stone, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 601, 26-C7 (1987)

TERMAN, JAMES L. Hydrogen as a Test of Type Ia Supernova Progenitor Models. *James H. Applegate & James L. Terman.* 340, 380, 72-A5 (1989)

TERNDRUP, D. M. The Trapezium Cluster of the Orion Nebula. *G. H. Herbig & D. M. Terndrup.* 307, 609, 103-E10 (1986)

Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

IRAS 20460+1925: An Extreme Seyfert 2 and One of the Most Luminous Galaxies Known. *Jay A. Frogel, F. C. Gillett, D. M. Terndrup, & J. Patricia Vader.* 343, 672, 127-E1 (1989)

Galactic Bulge M Giants. II. Content and Structure of the Bulge between $b = -3°$ and $-12°$. *Jay A. Frogel, D. M. Terndrup, V. M. Blanco, & A. E. Whitford.* 353, 494, 70-B8 (1990)

Galactic Bulge M Giants. III. Near-Infrared Spectra and Implications for the Stellar Content of E and S0 Galaxies. *D. M. Terndrup, Jay A. Frogel, & A. E. Whitford.* 357, 453, 118-C1 (1990)

TERNDRUP, DON. Infrared Photometry and Spectroscopy of Supernova 1986g in NGC 5128–Centaurus A. *Jay A. Frogel, Brooke Gregory, Kimiaki Kawara, Dave Laney, M. M. Phillips, Don Terndrup, Frederick Vrba, & Albert E. Whitford.* 315, L129, 49-E11 (1987)

TERRANEGRA, L. The Rotation Period and Inclination Angle of T Tauri. *W. Herbst, J. F. Booth, P. F. Chugainov, G. V. Zajtseva, W. Barksdale, E. Covino, L. Terranegra, A. Vittone, & F. Vrba.* 310, L71, 145-A13 (1986)

TERRELL, J. Long-Term Observations of Cygnus X-3 with *Vela 5B*. *W. Priedhorsky & J. Terrell.* 301, 886, 25-C13 (1986)

TERRELL, JAMES. *Vela* Observations of Centaurus A X-Ray Activity, 1969–1979. *James Terrell.* 300, 669, 10-D12 (1986)

TERZIAN, YERVANT. New OH Observations of the Supergiant IRC +10420. *B. M. Lewis, Yervant Terzian, & J. Eder.* 302, L23, 35-B10 (1986)

New OH/IR Stars from Color-selected IRAS Sources: 1612 MHz Observations. *J. Eder, B. M. Lewis, & Yervant Terzian.* 66, 183, 4-B1 (1988)

A Young Planetary Nebula with OH Molecules: NGC 6302. *H. E. Payne, J. A. Phillips, & Yervant Terzian.* 326, 368, 36-C4 (1988)

H I Emission-Absorption Studies with High-Velocity Resolution. *Sean W. J. Colgan, Edwin E. Salpeter, & Yervant Terzian.* 328, 275, 65-A7 (1988)

Arecibo Emission-Absorption Observations of Galactic OH. *Sean W. J. Colgan, Edwin E. Salpeter, & Yervant Terzian.* 336, 231, 4-A1 (1989)

Double Galaxy Redshifts and the Statistics of Small Numbers. *William I. Newman, Martha P. Haynes, & Yervant Terzian.* 344, 111, 134-D7 (1989)

H I Absorption Limits and Emission Mapping for High-Velocity Clouds. *Sean W. J. Colgan, Edwin E. Salpeter, & Yervant Terzian.* 351, 503, 46-C10 (1990)

New OH/IR Stars from Color-selected IRAS Sources. II. An Unbiased 1612 MHz Survey. *B. M. Lewis, J. Eder, & Yervant Terzian.* 362, 634, 178-F1 (1990)

TESHIMA, M. Detection of 10^{15} eV Gamma Rays from Cygnus X-3. *T. Kifune, K. Nishijima, T. Hara, Y. Hatano, N. Hayashida, M. Honda, K. Kamata, Y. Matsubara, M. Mori, M. Nagano, G. Tanahashi, & M. Teshima.* 301, 230, 16-D10 (1986)

Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D.*

Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration). 344, L17, 140-B9 (1989)

TESKE, R. G. Influence of the Equilibration Process in Supernova Remnant Shocks on Their X-Ray and Coronal Iron Surface Brightnesses. *D. Jerius & R. G. Teske.* 66, 99, 2-G1 (1988)

TESKE, RICHARD G. Forbidden Coronal Iron Line Images of Puppis A: Cloud Evaporation or Shocked Cloud? *Richard G. Teske & Robert Petre.* 314, 673, 37-A2 (1987)

Forbidden Coronal Iron-Line Emission in the Puppis A Shock Front: The Effect of Inhomogeneities. *Richard G. Teske & Robert Petre.* 318, 370, 83-A1 (1987)

New Upper Limit on Intensity of [Fe XIV] λ5303 in Tycho's Supernova Remnant. *Richard G. Teske.* 362, 563, 177-F10 (1990)

Forbidden Coronal Iron Emission in the Cygnus Loop. *Richard G. Teske.* 365, 256, 209-D5 (1990)

TESTERMAN, LARRY. Fourier Transform Spectrometer Observations of Solar Carbon Monoxide. II. Simultaneous Cospatial Measurements of the Fundamental and First-Overtone Bands, and Ca II K, in Quiet and Active Regions. *Thomas R. Ayres, Larry Testerman, & James W. Brault.* 304, 542, 59-G5 (1986)

TEUKOLSKY, SAUL A. Relativistic Stellar Dynamics on the Computer. IV. Collapse of a Star Cluster to a Black Hole. *Stuart L. Shapiro & Saul A. Teukolsky.* 307, 575, 103-C3 (1986)

Simulations of Axisymmetric, Newtonian Star Clusters: Prelude to 2+1 General Relativistic Computations. *Stuart L. Shapiro & Saul A. Teukolsky.* 318, 542, 86-G1 (1987)

How Big Are Supermassive Black Holes Formed from the Collapse of Dense Star Clusters? *Christopher S. Kochanek, Stuart L. Shapiro, & Saul A. Teukolsky.* 320, 73, 108-G8 (1987)

Simulations of Axisymmetic, Newtonian Star Clusters: Prelude to 2 + 1 General Relativistic Computations: Erratum. *Stuart L. Shapiro & Saul A. Teukolsky.* 324, 1221, 17-A12 (1988) (Orig. paper in 318, 542, 86-G1 (1987))

Accretion onto a Moving Black Hole: A Fully Relativistic Treatment. *Loren I. Petrich, Stuart L. Shapiro, Richard F. Stark, & Saul A. Teukolsky.* 336, 313, 5-A1 (1989)

On the Existence of Stable Relativistic Star Clusters with Arbitrarily Large Central Redshifts. *Frederic A. Rasio, Stuart L. Shapiro, & Saul A. Teukolsky.* 336, L63, 16-F5 (1989)

Exploding Neutron Stars near the Minimum Mass. *Monica Colpi, Stuart L. Shapiro, & Saul A. Teukolsky.* 339, 318, 54-A9 (1989)

What Is Causing the Eclipse in the Millisecond Binary Pulsar? *Frederic A. Rasio, Stuart L. Shapiro, & Saul A. Teukolsky.* 342, 934, 113-G7 (1989)

Solving the Vlasov Equation in General Relativity. *Frederic A. Rasio, Stuart L. Shapiro, & Saul A. Teukolsky.* 344, 146, 134-G7 (1989)

Spin-up of a Rapidly Rotating Star by Angular Momentum Loss. *Stuart L. Shapiro, Saul A. Teukolsky, & Takashi Nakamura.* 357, L17, 115-C11 (1990)

Gravitational Radiation from Colliding Clusters: Newtonian Simulations in Three Dimensions. *Christopher S. Kochanek, Stuart L. Shapiro, Saul A. Teukolsky, & David F. Chernoff.* 358, 81, 123-A10 (1990)

THADDEUS, P. Sandqvist 187: A Dense Molecular Cloud in Norma. *H. Alvarez, L. Bronfman, R. Cohen, G. Garay, J. Graham, & P. Thaddeus.* 300, 756, 11-D8 (1986)

Molecular Clouds and Star Formation in the Inner Galaxy: A Comparison of CO, H II, and Far-Infrared Surveys. *P. C. Myers, T. M. Dame, P. Thaddeus, R. S. Cohen, R. F. Silverberg, E. Dwek, & M. G. Hauser.* 301, 398, 18-B12 (1986)

The Columbia CO Survey of Molecular Clouds in the First Galactic Quadrant. *R. S. Cohen, T. M. Dame, & P. Thaddeus.* 60, 695, 10-A1 (1986)

A Survey of the Millimeter-Wave Spectrum of Sagittarius B2. *Sally E. Cummins, R. A. Linke, & P. Thaddeus.* 60, 819, 12-C3 (1986)

The Large System of Molecular Clouds in Orion and Monoceros. *Ronald J. Maddalena, Mark Morris, J. Moscowitz, & P. Thaddeus.* 303, 375, 45-B9 (1986)

The Rotational Spectrum of the C_3H Radical. *C. A. Gottlieb, E. W. Gottlieb, P. Thaddeus, & J. M. Vrtilek.* 303, 446, 46-A4 (1986)

The Largest Molecular Cloud Complexes in the First Galactic Quadrant. *T. M. Dame, B. G. Elmegreen, R. S. Cohen, & P. Thaddeus.* 305, 892, 78-F1 (1986)

Molecular Clouds and Supernova Remnants in the Outer Galaxy. *Y.-L. Huang & P. Thaddeus.* 309, 804, 130-B4 (1986)

A Large Molecular Cloud in Lupus far from the Galactic Plane. *L.-Å. Nyman, P. Thaddeus, L. Bronfman, & R. S. Cohen.* 314, 374, 32-C4 (1987)

A CO Survey of the Dark Nebulae in Perseus, Taurus, and Auriga. *H. Ungerechts & P. Thaddeus.* 63, 645, 10-D6 (1987)

Laboratory and Astronomical Spectroscopy of C_3H_2, the First Interstellar Organic Ring. *J. M. Vrtilek, C. A. Gottlieb, & P. Thaddeus.* 314, 716, 37-D8 (1987)

Molecular Clouds in the Carina Arm: Large-Scale Properties of Molecular Gas and Comparison with H I. *D. A. Grabelsky, R. S. Cohen, L. Bronfman, P. Thaddeus, & J. May.* 315, 122, 41-D2 (1987)

The Radio Spectrum of Cyclopropene. *J. M. Vrtilek, C. A. Gottlieb, T. J. LePage, & P. Thaddeus.* 316, 826, 61-B4 (1987)

A Composite CO Survey of the Entire Milky Way. *T. M. Dame, H. Ungerechts, R. S. Cohen, E. J. de Geus, I. A. Grenier, J. May, D. C. Murphy, L.-Å. Nyman, & P. Thaddeus.* 322, 706, 147-D13 (1987)

A CO Survey of the Southern Milky Way: The Mean Radial Distribution of Molecular Clouds within the Solar Circle. *L. Bronfman, R. S. Cohen, H. Alvarez, J. May, & P. Thaddeus.* 324, 248, 3-G12 (1988)

Molecular Clouds in the Carina Arm: The Largest Objects, Associated Regions of Star Formation, and the Carina Arm in the Galaxy. *D. A. Grabelsky, R. S. Cohen, L. Bronfman, & P. Thaddeus.* 331, 181, 108-A10 (1988)

A Complete Survey of the Large Magellanic Cloud. *R. S. Cohen, T. M. Dame, G. Garay, J. Montani, M. Rubio, & P. Thaddeus.* 331, L95, 121-E11 (1988)

The Radio Spectrum of the C_4D Radical. *D. R. Woodward, J. C. Pearson, C. A. Gottlieb, & P. Thaddeus.* 333, L29, 144-C8 (1988)

Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

Astronomical and Laboratory Detection of the SiC Radical. *J. Cernicharo, C. A. Gottlieb, M. Guélin, P. Thaddeus, & J. M. Vrtilek.* 341, L25, 91-C4 (1989)

Laboratory Measurement of the Rotational Spectrum of SiCC. *C. A. Gottlieb, J. M. Vrtilek, & P. Thaddeus.* 343, L29, 125-D9 (1989)

A Deep CO Survey of Molecular Clouds in the Southern Milky Way. *L. Bronfman, H. Alvarez, R. S. Cohen, & P. Thaddeus.* 71, 481, 42-A7 (1989)

CO Observations of the Cepheus Flare. I. Molecular Clouds Associated with a Nearby Bubble. *I. A. Grenier, F. Lebrun, M. Arnaud, T. M. Dame, & P. Thaddeus.* 347, 231, 185-A1 (1989)

Rotational Spectra of Carbon 13 and Vibrationally Excited SiC. *R. Mollaaghababa, C. A. Gottlieb, J. M. Vrtilek, & P. Thaddeus.* 352, L21, 55-C6 (1990)

Laboratory Detection of Propadienylidene, H_2CCC. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, T. C. Killian, & P. Thaddeus.* 364, L53, 205-E13 (1990)

Laboratory Detection of a Second Carbon Chain Carbene: Butatrienylidene, H_2CCCC. *T. C. Killian, J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, & P. Thaddeus.* 365, L89, 219-F11 (1990)

THADDEUS, PATRICK. Molecular and Atomic Clouds Associated with Infrared Cirrus in Ursa Major. *Hendrik Willem de Vries, Andreas Heithausen, & Patrick Thaddeus.* 319, 723, 103-A1 (1987)

A CO Survey of Regions around 34 Open Clusters. *David Leisawitz, Frank N. Bash, & Patrick Thaddeus.* 70, 731, 30-A1 (1989)

The Polaris Flare: Extensive Molecular Gas near the North Celestial Pole. *Andreas Heithausen & Patrick Thaddeus.* 353, L49, 73-C1 (1990)

Giant Molecular Clouds in the Outer Arm of the Galaxy. *Seth Digel, John Bally, & Patrick Thaddeus.* 357, L29, 121-C1 (1990)

THAKER, M. Enhanced Radiation Driven by a DC Electric Field. *T. Tajima, A. O. Benz, M. Thaker, & J.-N. Leboeuf.* 353, 666, 72-B8 (1990)

THE, LIH-SIN. SN 1987A Gamma-Ray Line Profiles and Fluxes. *R. W. Bussard, Adam Burrows, & Lih-Sin The.* 341, 401, 88-F7 (1989)

X-Ray and Gamma-Ray Fluxes from SN 1987A. *Lih-Sin The, Adam Burrows, & Roger Bussard.* 352, 731, 60-A11 (1990)

X- and Gamma-Ray Signatures of Type Ia Supernovae. *Adam Burrows & Lih-Sin The.* 360, 626, 154-A1 (1990)

THEJLL, PETER. An Atmospheric Analysis of the Carbon-rich White Dwarf G35-26. *Peter Thejll, Harry L. Shipman, James MacDonald, & W. M. MacFarland.* 361, 197, 159-D5 (1990)

THIELEMANN, F.-K. Nuclear Chronometers from the *r*-Process and the Age of the Galaxy. *John J. Cowan, F.-K. Thielemann, & J. W. Truran.* 323, 543, 160-F1 (1987)

Three-dimensional Hydrodynamical Simulations of Stellar Collision. II. White Dwarfs. *W. Benz, J. G. Hills, & F.-K. Thielemann.* 342, 986, 114-E1 (1989)

The Hot Proton-Proton Chains in Low-Metallicity Objects. *M. Wiescher, J. Görres, S. Graff, L. Buchmann, & F.-K. Thielemann.* 343, 352, 122-E1 (1989)

Capture Reactions on ^{14}C in Nonstandard Big Bang Nucleosynthesis. *M. Wiescher, J. Görres, & F.-K. Thielemann.* 363, 340, 188-C11 (1990)

THIELEMANN, FRIEDRICH-KARL. Chemical Evolution, Stellar Nucleosynthesis, and A Variable Star Formation Rate. *Keith A. Olive, Friedrich-Karl Thielemann, & James W. Truran.* 313, 813, 25-F1 (1987)

Alpha-Burning of ^{14}O. *Michael Wiescher, Volker Harms, Joachim Görres, Friedrich-Karl Thielemann, & Lawrence J. Rybarcyk.* 316, 162, 51-F10 (1987)

The Production of ^{26}Al in Supermassive Stars and the Gamma-Ray Line Flux from the Galactic Center. *Wolfgang Hillebrandt, Friedrich-Karl Thielemann, & Norbert Langer.* 321, 761, 132-G7 (1987)

^{17}F$(p,\gamma)^{18}$Ne in Explosive Hydrogen Burning. *Michael Wiescher, Joachim Görres, & Friedrich-Karl Thielemann.* 326, 384, 36-D11 (1988)

Convective Instabilities in SN 1987A. *Willy Benz & Friedrich-Karl Thielemann.* 348, L17, 6-B11 (1990)

Explosive Nucleosynthesis in SN 1987A. II. Composition, Radioactivities, and the Neutron Star Mass. *Friedrich-Karl Thielemann, Masa-aki Hashimoto, & Ken'ichi Nomoto.* 349, 222, 16-F1 (1990)

THIELHEIM, K. O. Acceleration of Protons and Electrons in the Electromagnetic Field of a Rotating Orthogonal Magnetic Dipole. *H. Laue & K. O. Thielheim.* 61, 465, 24-A5 (1986)

Numerical Investigation of the Acceleration Boundary for Protons and Electrons of a Rotating Magnetized Star. *R. Leinemann & K. O. Thielheim.* 66, 19, 1-C11 (1988)

Charged Particle Dynamics near the Force-free Surface of a Rotating Magnetized Sphere. *K. O. Thielheim & H. Wolfsteller.* 71, 583, 44-A11 (1989)

THOMAS, G. E. Solar Cycle Study of Interplanetrary Lyman-Alpha Variations: *Pioneer Venus* Orbiter Sky Background Results. *J. M. Ajello, A. I. Stewart, G. E. Thomas, & A. Graps.* 317, 964, 76-F5 (1987)

THOMAS, HOLLY. A Search for Near-Infrared Counterparts of IRAS Embedded Sources in the M17 SW Giant Molecular Cloud. *Debra Meloy Elmegreen, James Phillips, Kelly Beck, Holly Thomas, & Jamie Howard.* 335, 803, 181-D9 (1988)

THOMAS, J. H. Oscillation Spectra of Neutron Stars with Strong Magnetic Fields. *B. W. Carroll, E. G. Zweibel, C. J. Hansen, P. N. McDermott, M. P. Savedoff, J. H. Thomas, & H. M. Van Horn.* 305, 767, 77-C9 (1986)

THOMAS, JOHN H. The Interaction of Solar *p*-Modes with a Sunspot. I. Observations. *Toufik E. Abdelatif, Bruce W. Lites, & John H. Thomas.* 311, 1015, 159-A2 (1986)

Simultaneous Measurements of Sunspot Umbral Oscillations in the Photosphere, Chromosphere, and Transition Region. *John H. Thomas, Bruce W. Lites, Joseph B. Gurman, & Edwin F. Ladd.* 312, 457, 5-G9 (1987)

The Interaction of Solar *p*-Modes with a Sunspot. II. Simple Theoretical Models. *Toufik E. Abdelatif & John H. Thomas.* 320, 884, 119-D11 (1987)

Siphon Flows in Isolated Magnetic Flux Tubes. *John H. Thomas.* 333, 407, 142-E4 (1988)

Siphon Flows in Isolated Magnetic Flux Tubes. II. Adiabatic Flows. *Benjamin Montesinos & John H. Thomas.* 337, 977, 31-A1 (1989)

Transmission and Reflection of Compressive Waves at a Nonmagnetic-Magnetic Interface. *Toufik E. Abdelatif & John H. Thomas.* 70, 239, 21-E7 (1989)

Siphon Flows in Isolated Magnetic Flux Tubes. III. The Equilibrium Path of the Flux-Tube Arch. *John H. Thomas & Benjamin Montesinos.* 359, 550, 142-G6 (1990)

THOMAS, P. A. Cosmological Velocity Bias. *R. G. Carlberg, H. M. P. Couchman, & P. A. Thomas.* 352, L29, 61-B1 (1990)

THOMAS, PETER A. Gravitational Lensing and Evolution in Quasar Absorption Systems. *Peter A. Thomas & Rachel L. Webster.* 349, 437, 20-F1 (1990)

THOMAS, R. J. Energetics and Dynamics of Simple Impulsive Solar Flares. *R. Starr, W. A. Heindl, C. J. Crannell, R. J. Thomas, D. A. Batchelor, & A. Magun.* 329, 967, 87-F3 (1988)

THOMAS, S. B. A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

THOMASSON, MAGNUS. A Computer-generated Galaxy Model with Long-lived Two-armed Spiral Structure. *Magnus Thomasson, Bruce G. Elmegreen, Karl Johan Donner, & Björn Sundelius.* 356, L9, 103-C1 (1990)

THOMPSON, C. Distortion of the Cosmic Background Radiation by Superconducting Strings. *J. P. Ostriker & C. Thompson.* 323, L97, 164-A9 (1987)

THOMPSON, CHRISTOPHER. Gravitational Instability in Two-Phase Disks and the Origin of the Moon. *Christopher Thompson & David J. Stevenson.* 333, 452, 143-B1 (1988)

THOMPSON, D. J. Reexamination of the *SAS 2* Cygnus X-3 Data. *C. E. Fichtel, D. J. Thompson, & R. C. Lamb.* 319, 362, 97-A9 (1987)

THOMPSON, D. T. The Albedo of Titan. *G. W. Lockwood, B. L. Lutz, D. T. Thompson, & E. S. Bus.* 303, 511, 46-F2 (1986)

Spectrophotometry of Epsilon Aurigae. *D. T. Thompson, B. L. Lutz, G. W. Lockwood, & J. R. Sowell.* 321, 450, 127-B1 (1987)

The Activity, Variability, and Rotation of Lower Main-Sequence Hyades Stars. *Richard R. Radick, D. T. Thompson, G. W. Lockwood, D. K. Duncan, & W. E. Baggett.* 321, 459, 127-B10 (1987)

THOMPSON, I. B. CAL 83: A Puzzling X-Ray Source in the Large Magellanic Cloud. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, I. B. Thompson, & James Liebert.* 321, 745, 132-F3 (1987)

Massive Star-Formation Regions in the Magellanic Clouds. *J. B. Hutchings & I. B. Thompson.* 331, 294, 109-D1 (1988)

The Low-Mass X-Ray Binary LMC X-2. *David Crampton, A. P. Cowley, J. B. Hutchings, Paul C. Schmidtke, & I. B. Thompson.* 355, 496, 94-F1 (1990)

THOMPSON, IAN. The Stellar Populations of Shapley Constellation III. *Neill Reid, Jeremy Mould, & Ian Thompson.* 323, 433, 159-C11 (1987)

THOMPSON, IAN B. The Evolution of the Magnetic Fields of Ap Stars: Magnetic Observations of Stars in the Scorpius-Centaurus Association. *Ian B. Thompson, Douglas N. Brown, & John D. Landstreet.* 64, 219, 19-B11 (1987)

Magnetic Field Measurements of Helium-strong Stars. *David A. Bohlender, Douglas N. Brown, J. D. Landstreet, & Ian B. Thompson.* 323, 325, 156-E8 (1987)

Optical Polarization of Seyfert Galaxies. *Ian B. Thompson & P. G. Martin.* 330, 121, 91-D1 (1988)

Faint Star Counts in NGC 6397. *Gregory G. Fahlman, Harvey B. Richer, Leonard Searle, & Ian B. Thompson.* 343, L49, 132-C1 (1989)

THOMPSON, K. Radio Emission from EA Eclipsing Binaries: Evidence for Kilogauss Surface Fields on Both Early-Type and Late-Type Stars. *R. T. Stewart, O. B. Slee, Graeme L. White, E. Budding, D. W. Coates, K. Thompson, & John D. Bunton.* 342, 463, 106-D7 (1989)

THOMPSON, K. L. Unidentified Emission Lines in Jupiter's Northern and Southern 2 Micron Aurorae. *L. Trafton, D. F. Lester, & K. L. Thompson.* 343, L73, 132-E1 (1989)

THOMPSON, KEITH L. The Effect of Spherical Voids on the Microwave Background Radiation. *Keith L. Thompson & Ethan T. Vishniac.* 313, 517, 22-D9 (1987)

Strong Molecular Hydrogen Emission from the Low-Luminosity Nucleus of M51. *Daniel F. Lester & Keith L. Thompson.* 348, L49, 13-B1 (1990)

THOMPSON, LAIRD A. High-Resolution Imaging from Mauna Kea: Surface Photometry of Galaxies in CL 0024+16. *Laird A. Thompson.* 300, 639, 10-B3 (1986)

The A2197 and A2199 Galaxy Clusters: Erratum. *Stephen A. Gregory & Laird A. Thompson.* 305, 580, 73-E8 (1986) (Orig. paper in 286, 422, 127-F4 (1984))

Galaxy Distribution in Butcher-Oemler Clusters. *Laird A. Thompson.* 306, 384, 88-F3 (1986)

High-Resolution Imaging from Mauna Kea: Globular Clusters in the Coma Cluster Galaxy NGC 4874. *Laird A. Thompson & Francisco Valdes.* 315, L35, 45-C14 (1987)

High-Resolution Imaging from Mauna Kea: Morphology of Butcher-Oemler Galaxies. *Laird A. Thompson.* 324, 112, 2-C1 (1988)

THOMPSON, RODGER I. Line Excess in Low-Luminosity Young Stellar Objects. *Rodger I. Thompson.* 312, 784, 11-D13 (1987)

A New Ionization Model for Galaxies with Dominant Star-Formation Regions. *Rodger I. Thompson.* 321, 153, 123-G11 (1987)

Optically Thick Infrared CO Emission in WL 16. *Rodger I. Thompson & Buell T. Jannuzi.* 344, 799, 144-B9 (1989)

THOMSEN, BIARNE. Magnesium Gradients in Elliptical Galaxies. I. Method and Initial Results. *William A. Baum, Bjarne Thomsen, & Brian L. Morgan.* 301, 83, 14-G10 (1986)

Magnesium Gradients in Elliptical Galaxies. II. NGC 4881. *Bjarne Thomsen & William A. Baum.* 315, 460, 45-F10 (1987)

Magnesium Gradients in Elliptical Galaxies. III. Results and Interpretation. *Bjarne Thomsen & William A. Baum.* 347, 214, 184-F8 (1989)

THONNARD, N. H I Gas near the Giant Elliptical Galaxy NGC 4472. *R. Sancisi, N. Thonnard, & R. D. Ekers.* 315, L39, 45-D8 (1987)

THORNE, KIP S. Giant and Supergiant Stars with Degenerate Neutron Cores. *Chris Eich, Mark E. Zimmermann, Kip S. Thorne, & Anna N. Zytkow.* 346, 277, 169-E7 (1989)

THORNE, RICHARD M. Theory of Centrifugally Driven Magnetospheric Diffusion. *Danny Summers, Richard M. Thorne, & Yi Mei.* 328, 358, 66-B1 (1988)

THORNTON, G. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

THORSETT, S. E. The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)

Polarimetry of Millisecond Pulsars. *S. E. Thorsett & D. R. Stinebring.* 361, 644, 166-B1 (1990)

Observations of the Eclipsing Binary Pulsar in Terzan 5. *D. J. Nice, S. E. Thorsett, J. H. Taylor, & A. S. Fruchter.* 361, L61, 168-D7 (1990)

THORSTENSEN, J. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

THORSTENSEN, J. R. X-Ray and Optical Observations of the Ultrashort Period Dwarf Nova SW Ursae Majoris: A Likely New DQ Herculis Star. *A. W. Shafter, P. Szkody, & J. R. Thorstensen.* 308, 765, 117-C11 (1986)

Discovery of a Possible X-Ray Triple: 4U 1915−05. *J. E. Grindlay, C. D. Bailyn, H. Cohn, P. M. Lugger, J. R. Thorstensen, & G. Wegner.* 334, L25, 161-C9 (1988)

THORSTENSEN, JOHN R. A Spectroscopic Study of the Cataclysmic Binary Star SU Ursae Majoris. *John R. Thorstensen, Richard A. Wade, & J. B. Oke.* 309, 721, 129-B9 (1986)

A 9.3 Hour Orbital Period in the Potential Black Hole Binary 4U 1957+11. *John R. Thorstensen.* 312, 739, 11-A9 (1987)

Optical Observations of the X-Ray Binary V1727 Cygni (=4U 2129+47) during a Low State: Some Unexpected Results. *John R. Thorstensen, Kenneth R. Brownsberger, Delo E. Mook, The Off-Campus Program Students, Ronald A. Remillard, Jeffrey E. McClintock, David C. Koo, & Philip A. Charles.* 334, 430, 159-E1 (1988)

THRONSON, H. A. Thermal-Infrared and Visual Imaging of Comet Giacobini-Zinner. *C. M. Telesco, R. Decher, C. Baugher, H. Campins, D. Mozurkewich, H. A. Thronson, D. P. Cruikshank, H. B. Hammel, S. Larson, & Z. Sekanina.* 310, L61, 138-E4 (1986)

THRONSON, HARLEY A., JR. Far-Infrared Observations of Sagittarius B2: Reconsideration of Source Structure. *Harley A. Thronson, Jr., & D. A. Harper.* 300, 396, 5-D4 (1986)

The Dust and Molecular Gas Cloud Surrounding a Planetary Nebula: NGC 7027. *Harley A. Thronson, Jr., & John Bally.* 300, 749, 11-D1 (1986)

The Core of the W3 Molecular Cloud. *Harley A. Thronson, Jr.* 306, 160, 83-A12 (1986)

Star Formation in Active Dwarf Galaxies. *Harley A. Thronson, Jr., & C. M. Telesco.* 311, 98, 147-B3 (1986)

Star Formation in the Magellanic Irregular Galaxy NGC 4449. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, D. A. Harper, & R. Decher.* 317, 180, 66-A3 (1987)

Observations of 1.3 Millimeter Emission from the Centers of Galaxies. *Harley A. Thronson, Jr., Christopher K. Walker, Constance E. Walker, & Philip Maloney.* 318, 645, 88-A4 (1987)

Infrared Emission and Star Formation in Early-Type Galaxies. *Harley A. Thronson, Jr., & John Bally.* 319, L63, 107-D1 (1987)

Properties of Evolved Mass-losing Stars in the Milky Way and Variations in the Interstellar Dust Composition. *Harley A. Thronson, Jr., William B. Latter, John H. Black, John Bally, & Perry Hacking.* 322, 770, 148-C5 (1987)

H_2 and H I Emission-Line Imaging of the Ring Nebula (NGC 6720). *Matthew A. Greenhouse, Thomas L. Hayward, & Harley A. Thronson, Jr.* 325, 604, 27-B9 (1988)

Near-Infrared Mass-to-Light Ratios in Galaxies: Stellar Mass and Star Formation in the Heart of the Whirlpool. *Harley A. Thronson, Jr., & Matthew A. Greenhouse.* 327, 671, 56-A8 (1988)

H_2 and H I Emission-Line Imaging of the Ring Nebula (NGC 6720): Erratum. *Matthew A. Greenhouse, Thomas L. Hayward, & Harley A. Thronson, Jr.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 604, 27-B9 (1988))

The Magellanic Irregular Galaxy NGC 4214: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, C. M. Telesco, Matthew Greenhouse, & D. A. Harper.* 334, 605, 162-A10 (1988)

The Interacting Galaxy Pair NGC 4485 and NGC 4490: Star Formation and the Interstellar Medium. *Harley A. Thronson, Jr., Deidre A. Hunter, Sean Casey, William B. Latter, & D. A. Harper.* 339, 803, 61-F7 (1989)

Star Formation and the Interstellar Medium in Two Peculiar, Nonspiral Galaxies: NGC 1569 and NGC 3593. *Deidre A. Hunter, Harley A. Thronson, Jr., Sean Casey, & D. A. Harper.* 341, 697, 94-A1 (1989)

Near-Infrared Images of NGC 1068: Bar-driven Star Formation and the Circumnuclear Composition. *Harley A. Thronson, Jr., Mark*

Hereld, Steven Majewski, Matthew Greenhouse, Paul Johnson, Earl Spillar, C. E. Woodward, D. A. Harper, & Bernard J. Rauscher. 343, 158, 120-B3 (1989)

Molecular Gas, the Interstellar Medium, and Star Formation in S0 and Sa Galaxies. *Harley A. Thronson, Jr., Linda Tacconi, Jeffrey Kenney, Matthew A. Greenhouse, Michael Margulis, Lowell Tacconi-Garman, & Judith S. Young.* 344, 747, 143-E10 (1989)

Submillimeter Continuum Emission from Galaxies: Star Formation and the Interstellar Medium in the Local Group Dwarf IC 10. *Harley A. Thronson, Jr., Deidre A. Hunter, Sean Casey, & D. A. Harper.* 355, 94, 88-B9 (1990)

A Subdued Interpretation of the Visual and Infrared Emission from Merging Galaxies: Application to NGC 6240. *Harley A. Thronson, Jr., S. Majewski, Lara Descartes, & Mark Hereld.* 364, 456, 201-F5 (1990)

THRONSON, HARLEY, JR. G70.7+1.2: A Nonthermal Bubble in a Globule—Nova, Supernova Remnant, or Outflow? *John Bally, Marc W. Pound, Antony A. Stark, Frank Israel, Naomi Hirano, Osamu Kameya, Kazuyoshi Sunada, Masahiko Hayashi, Harley Thronson, Jr., & Mark Hereld.* 338, L65, 49-C9 (1989)

THUAN, T. X. The Strong UV Source in the Active E Galaxy NGC 4552. *R. W. O'Connell, T. X. Thuan, & J. J. Puschell.* 303, L37, 53-C1 (1986)

THUAN, TRINH X. Surface Brightness and Color Distributions in Blue Compact Dwarf Galaxies. I. Haro 2, an Extreme Example of a Star-forming Young Elliptical Galaxy. *Hans-Hermann Loose & Trinh X. Thuan.* 309, 59, 120-F1 (1986)

The Spatial Distribution of Dwarf Galaxies in the CfA Slice of the Universe. *Trinh X. Thuan, J. Richard Gott III, & Stephen E. Schneider.* 315, L93, 49-C2 (1987)

Spectral Synthesis in the Ultraviolet. I. Far-Ultraviolet Stellar Library. *Michael N. Fanelli, Robert W. O'Connell, & Trinh X. Thuan.* 321, 768, 133-A1 (1987)

Near-Infrared Observations of Submillijansky Radio Sources: Evidence for a Population of Starburst Galaxies at Intermediate Redshifts. *Trinh X. Thuan & J. J. Condon.* 322, L9, 145-A11 (1987)

Spectral Synthesis in the Ultraviolet. II. Stellar Populations and Star Formation in Blue Compact Galaxies. *Michael N. Fanelli, Robert W. O'Connell, & Trinh X. Thuan.* 334, 665, 163-F5 (1988)

The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

Near-Infrared Photometry and Stellar Populations of First-ranked Galaxies in a Complete Sample of Nearby Abell Clusters. *Trinh X. Thuan & Jeffery J. Puschell.* 346, 34, 166-E1 (1989)

Northern Dwarf and Low Surface Brightness Galaxies. I. The Arecibo Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Christopher Magri, & James E. Wadiak.* 72, 245, 5-D1 (1990)

THURSTANS, R. P. Modal Approach to the Morphology of Spiral Galaxies. I. Basic Structure and Astrophysical Viability. *G. Bertin, C. C. Lin, S. A. Lowe, & R. P. Thurstans.* 338, 78, 34-A3 (1989)

Modal Approach to the Morphology of Spiral Galaxies. II. Dynamical Mechanisms. *G. Bertin, C. C. Lin, S. A. Lowe, & R. P. Thurstans.* 338, 104, 34-C6 (1989)

TIELENS, A. G. G. M. The Infrared Emission Bands. I. Correlation Studies and the Dependence on C/O Ratio. *Martin Cohen, Lou Allamandola, A. G. G. M. Tielens, Jesse Bregman, J. P. Simpson, Fred C. Witteborn, Diane Wooden, & Dave Rank.* 302, 737, 38-F10 (1986)

Anharmonicity and the Interstellar Polycyclic Aromatic Hydrocarbon Infrared Emission Spectrum. *John R. Barker, L. J. Allamandola, & A. G. G. M. Tielens.* 315, L61, 45-E14 (1987)

The Structure of Time-dependent Interstellar Shocks and Grain Destruction in the Interstellar Medium. *Christopher F. McKee, David J. Hollenbach, C. Gregory Seab, & A. G. G. M. Tielens.* 318, 674, 88-C7 (1987)

Shock Processing of Interstellar Dust: Diamonds in the Sky. *A. G. G. M. Tielens, C. G. Seab, D. J. Hollenbach, & Christopher F. McKee.* 319, L109, 107-G6 (1987)

Laboratory Studies of the Infrared Spectral Properties of CO in Astrophysical Ices. *S. A. Sandford, L. J. Allamandola, A. G. G. M. Tielens, & G. J. Valero.* 329, 498, 80-E10 (1988)

C II 158 Micron and O I 63 Micron Observations of NGC 7023: A Model for Its Photodisscoiation Region. *A. Chokshi, A. G. G. M. Tielens, M. Werner, & M. W. Castelaz.* 334, 803, 165-C6 (1988)

3 Micron Spectrophotometry of Comet Halley: Evidence for Water Ice. *Jesse D. Bregman, A. G. G. M. Tielens, Fred C. Witteborn, David M. Rank, & Diane Wooden.* 334, 1044, 168-A11 (1988)

The Infrared Emission Bands. III. Southern *IRAS* Sources. *Martin Cohen, A. G. G. M. Tielens, Jesse Bregman, Fred C. Witteborn, David M. Rank, L. J. Allamandola, Dianne Wooden, & M. de Muizon.* 341, 246, 87-A7 (1989)

Spatial Variations of the 3 Micron Emission Features within UV–excited Nebulae: Photochemical Evolution of Interstellar Polycyclic Aromatic Hydrocarbons. *T. R. Geballe, A. G. G. M. Tielens, L. J. Allamandola, A. Moorhouse, & P. W. J. L. Brand.* 341, 278, 87-C13 (1989)

Theoretical Studies of the Infrared Emission from Circumstellar Dust Shells: The Infrared Characteristics of Circumstellar Silicates and the Mass-Loss Rate of Oxygen-rich Late-Type Giants. *W. A. Schutte & A. G. G. M. Tielens.* 343, 369, 122-F6 (1989)

Mid-Infrared Spectra of WC 9 Stars: The Composition of Circumstellar and Interstellar Dust. *M. Cohen, A. G. G. M. Tielens, & J. D. Bregman.* 344, L13, 140-B5 (1989)

The Correlation of C II 158 Micron and CO ($J = 1–0$) Line Emission. *Mark G. Wolfire, David Hollenbach, & A. G. G. M. Tielens.* 344, 770, 143-G8 (1989)

The Infrared Emission Bands. II. A Spatial and Spectral Study of the Orion Bar. *J. D. Bregman, L. J. Allamandola, A. G. G. M. Tielens, T. R. Geballe, & F. C. Witteborn.* 344, 791, 144-B1 (1989)

The Discovery of a New Infrared Emission Feature at 1905 Wavenumbers (5.25 Microns) in the Spectrum of BD +30°3639 and Its Relation to the Polycyclic Aromatic Hydrocarbon Model. *L. J. Allamandola, J. D. Bregman, S. A. Sandford, A. G. G. M. Tielens, F. C. Witteborn, D. H. Wooden, & D. Rank.* 345, L59, 157-F1 (1989)

Interstellar Polycyclic Aromatic Hydrocarbons: The Infrared Emission Bands, the Excitation/Emission Mechanism, and the Astrophysical Implications. *L. J. Allamandola, A. G. G. M. Tielens, & J. R. Barker.* 71, 733, 46-E9 (1989)

Studies of Dust Grain Properties in Infrared Reflection Nebulae. *Y. J. Pendleton, A. G. G. M. Tielens, & M. W. Werner.* 349, 107, 15-C7 (1990)

Physical Conditions in Photodissociation Regions: Application to Galactic Nuclei. *Mark G. Wolfire, A. G. G. M. Tielens, & David Hollenbach.* 358, 116, 123-D6 (1990)

The Anomalous 3.43 and 3.53 Micron Emission Features toward HD 97048 and Elias 1: C-C Vibrational Modes of Polycyclic Aromatic Hydrocarbons? *W. A. Schutte, A. G. G. M. Tielens, L. J. Allamandola, M. Cohen, & D. H. Wooden.* 360, 577, 153-D5 (1990)

Hydrocarbon Emission Features in the Infrared Spectra of Warm Supergiants. *R. H. Buss, Jr., M. Cohen, A. G. G. M. Tielens, M. W. Werner, J. D. Bregman, F. C. Witteborn, D. Rank, & S. A. Sandford.* 365, L23, 212-C6 (1990)

Line Emission from Clumpy Photodissociation Regions. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 365, 620, 216-A1 (1990)

TIFFT, W. G. Uncertainties in 21 centimeter Redshifts. I. Data. *W. G. Tifft & W. J. Cocke.* 67, 1, 10-B1 (1988)

Quantization of Redshift Differences in Isolated Galaxy Pairs. *W. G. Tifft & W. J. Cocke.* 336, 128, 2-E13 (1989)

Redshift Quantization in the Lyα Forest and the Measurement of q_0. *W. J. Cocke & W. G. Tifft.* 346, 613, 175-B1 (1989)

Properties of the Redshift. I. Data and Calibrations. *W. G. Tifft.* 73, 603, 26-B1 (1990)

TIFFT, WILLIAM G. A Spectroscopic Survey of Case Emission-Line Galaxies in the Direction of the Bootes Void. *William G. Tifft, Robert P. Kirshner, Stephen A. Gregory, & J. Ward Moody.* 310, 75, 132-G10 (1986)

TILANUS, R. P. J. Spiral Structure of M51: Thermal and Nonthermal Emission. *R. P. J. Tilanus, R. J. Allen, J. M. van der Hulst, P. C. Crane, & R. C. Kennicutt.* 330, 667, 99-G1 (1988)

Spiral Structure of M51: Displacement of the H I from the Nonthermal Radio Arms. *R. P. J. Tilanus & R. J. Allen.* 339, L57, 66-C1 (1989)

TIMBIE, PETER T. A Search for Anisotropy in the Cosmic Microwave Radiation at Medium Angular Scales. *Peter T. Timbie & David T. Wilkinson.* 353, 140, 63-G9 (1990)

TIMUSK, T. Anisotropy of the Diffuse Background at Millimeter Wavelengths. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 337, L1, 25-A6 (1989)

A Measurement of the Spectrum of the Cosmic Background Radiation from 1 to 3 Millimeter Wavelength. *G. M. Bernstein, M. L. Fischer, P. L. Richards, J. B. Peterson, & T. Timusk.* 362, 107, 170-D9 (1990)

TINNEY, C. G. Interferometric Observations of 1.4 Millimeter Continuum Sources. *D. P. Woody, S. L. Scott, N. Z. Scoville, L. G. Mundy, A. I. Sargent, S. Padin, C. G. Tinney, & C. D. Wilson.* 337, L41, 25-D5 (1989)

Aperture Synthesis of CO Emission in Extremely Luminous Infrared Galaxies. *N. Z. Scoville, D. B. Sanders, A. I. Sargent, B. T. Soifer, & C. G. Tinney.* 345, L25, 157-C2 (1989)

Molecular Gas in Intermediate Luminosity *IRAS* Galaxies. *C. G. Tinney, N. Z. Scoville, D. B. Sanders, & B. T. Soifer.* 362, 473, 176-D5 (1990)

TINNEY, CHRIS. Luminous Asymptotic Giant Branch Stars in the Large Magellanic Cloud. *Neill Reid, Chris Tinney, & Jeremy Mould.* 348, 98, 2-C3 (1990)

TIPPING, R. H. Vibration-Rotational Intensities for the $X\,^1\Sigma^+$ State of AlH and AlD. *R. H. Tipping, A. Lopez Piñeiro, & C. Chackerian, Jr.* 323, 810, 163-E12 (1987)

TITLE, A. M. High-Resolution Observations of Changing Magnetic Features on the Sun. *K. P. Topka, T. D. Tarbell, & A. M. Title.* 306, 304, 84-F3 (1986)

On the Relation between Magnetic Field Structures and Granulation. *A. M. Title, T. D. Tarbell, & K. P. Topka.* 317, 892, 75-G3 (1987)

On the Relation between Photospheric Flow Fields and the Magnetic Field Distribution on the Solar Surface. *George W. Simon, A. M. Title, K. P. Topka, T. D. Tarbell, R. A. Shine, S. H. Ferguson, H. Zirin, & The SOUP Team.* 327, 964, 59-C1 (1988)

Statistical Properties of Solar Granulation Derived from the SOUP Instrument on *Spacelab 2*. *A. M. Title, T. D. Tarbell, K. P. Topka, S. H. Ferguson, R. A. Shine, & The SOUP Team.* 336, 475, 7-A10 (1989)

TITUS, M. A. Synchrotron Radiation from the Winds of O Supergiants: $T_b = 10^{7.6}$ K at 60 R_*. *R. B. Phillips & M. A. Titus.* 359, L15, 138-B7 (1990)

TOFFOLATTI, L. Interpretation of Deep Counts of Radio Sources. *L. Danese, G. De Zotti, A. Franceschini, & L. Toffolatti.* 318, L15, 85-B2 (1987)

Discrete Source Contributions to Small-Scale Anisotropies of the Microwave Background. *A. Franceschini, L. Toffolatti, L. Danese, & G. De Zotti.* 344, 35, 133-D8 (1989)

TOHLINE, JOEL E. Dynamic Fission Instabilities in Rapidly Rotating $n = 3/2$ Polytropes: A Comparison of Results from Finite-Difference and Smoothed Particle Hydrodynamics Codes. *Richard H. Durisen, Robert A. Gingold, Joel E. Tohline, & Alan P. Boss.* 305, 281, 70-B2 (1986)

What Warped Disks Can Tell Us about Galaxy Halos and Gravity. *Dimitris M. Christodoulou & Joel E. Tohline.* 307, 449, 101-E7 (1986)

Linear and Nonlinear Dynamic Instability of Rotating Polytropes. *Harold A. Williams & Joel E. Tohline.* 315, 594, 47-B10 (1987)

Lower Bounds on the Masses of Rapidly Rotating White Dwarfs. *G. Chanmugam, Meenakshi Rao, & Joel E. Tohline.* 319, 188, 95-A13 (1987)

The Crucial Role of Cooling in the Making of Molecular Clouds and Stars. *Joel E. Tohline, Peter H. Bodenheimer, & Dimitris M. Christodoulou.* 322, 787, 148-D9 (1987)

Fragmentation of Rapidly Rotating Gas Clouds. I. A Universal Criterion for Fragmentation. *Izumi Hachisu, Joel E. Tohline, & Yoshiharu Eriguchi.* 323, 592, 161-C1 (1987)

Star Formation via the Phase Transition of an Adiabatic Gas. *Joel E. Tohline & Dimitris M. Christodoulou.* 325, 699, 28-C1 (1988)

Fragmentation of Rapidly Rotating Gas Clouds. II. Polytropes—Clues to the Outcome of Adiabatic Collapse. *Izumi Hachisu, Joel E. Tohline, & Yoshiharu Eriguchi.* 66, 315, 6-D1 (1988)

Circumstellar Ring Formation in Rapidly Rotating Protostars. *Harold A. Williams & Joel E. Tohline.* 334, 449, 159-F8 (1988)

The Formation Phase of the Solar Nebula. *Peter Bodenheimer, Harold W. Yorke, Michał Różyczka, & Joel E. Tohline.* 355, 651, 96-F4 (1990)

The Breakup of Self-gravitating Rings, Tori, and Thick Accretion Disks. *Joel E. Tohline & Izumi Hachisu.* 361, 394, 163-A10 (1990)

Phase Transition Time Scales for Cooling and Isothermal Media. *Dimitris M. Christodoulou & Joel E. Tohline.* 363, 197, 184-E7 (1990)

TOKARZ, SUSAN. BE Ursae Majoris: A Detached Binary with a Unique Reprocessing Spectrum. *Donald H. Ferguson, James Liebert, Roc Cutri, Richard F. Green, S. P. Willner, João E. Steiner, & Susan Tokarz.* 316, 399, 54-D4 (1987)

TOKI, HIROSHI. Radiative Alpha-Capture Rates Leading to $A = 7$ Nuclei: Applications to the Solar Neutrino Problem and Big Bang Nucleosynthesis. *Toshitaka Kajino, Hiroshi Toki, & Sam M. Austin.* 319, 531, 99-A12 (1987)

Radiative Alpha-Capture Rates Leading to $A = 7$ Nuclei: Applications to the Solar Neutrino Problem and Big Bang Nucleosynthesis: Erratum. *Toshitaka Kajino, Hiroshi Toki, & Sam M. Austin.* 327, 1060, 60-D11 (1988) (Orig. paper in 319, 531, 99-A12 (1987))

TOKUMARU, M. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

TOKUNAGA, A. T. Detection of Carbon Monoxide in Saturn. *Keith S. Noll, R. F. Knacke, T. R. Geballe, & A. T. Tokunaga.* 309, L91, 131-F3 (1986)

3 Micron Spectroscopy of Comet Halley (1982i). *A. T. Tokunaga, R. G. Smith, T. Nagata, D. L. DePoy, & K. Sellgren.* 310, L45, 138-D3 (1986)

The Origin and Vertical Distribution of Carbon Monoxide in Jupiter. *Keith S. Noll, R. F. Knacke, T. R. Geballe, & A. T. Tokunaga.* 324, 1210, 17-A1 (1988)

High Spectral Resolution Observations of HD 44179 at 3.2–3.7 Microns. *A. T. Tokunaga, T. Nagata, K. Sellgren, R. G. Smith, T. Onaka, Y. Nakada, A. Sakata, & S. Wada.* 328, 709, 70-G6 (1988)

Infrared Spectroscopy, Imaging, and 10 Micron Photometry of Giclas 29-38. *A. T. Tokunaga, K.-W. Hodapp, E. E. Becklin, D. P. Cruikshank, M. Rigler, D. Toomey, R. H. Brown, & B. Zuckerman.* 332, L71, 137-D1 (1988)

Spectroscopy of Emission Features near 3 Microns in Comet Wilson (1986l). *T. Y. Brooke, R. F. Knacke, T. C. Owen, & A. T. Tokunaga.* 336, 971, 14-E5 (1989)

The 3.3 Micron Feature, H_2, and Ionized Gas in the Orion Bar. *K. Sellgren, A. T. Tokunaga, & Y. Nakada.* 349, 120, 15-D8 (1990)

Quenched Carbonaceous Composite. III. Comparison to the 3.29 Micron Interstellar Emission Feature. *A. Sakata, S. Wada, T. Onaka, & A. T. Tokunaga.* 353, 543, 70-F5 (1990)

The Infrared Spectrum of G29–38. *A. T. Tokunaga, E. E. Becklin, & B. Zuckerman.* 358, L21, 127-C6 (1990)

TOKUNAGA, ALAN T. Infrared Spectrum of Quenched Carbonaceous Composite (QCC). II. A New Identification of the 7.7 and 8.6 Micron Unidentified Infrared Emission Bands. *Akira Sakata, Setsuko Wada, Takashi Onaka, & Alan T. Tokunaga.* 320, L63, 114-E9 (1987)

High-Resolution Spectroscopy of the 3 Micron Emission Features in NGC 7027 and IRAS 21282+5050. *Tetsuya Nagata, Alan T.*

Tokunaga, K. Sellgren, Robert G. Smith, Takashi Onaka, Yoshikazu Nakada, & Akira Sakata. 326, 157, 33-G5 (1988)

A Study of H_2O Ice in the 3 Micron Spectrum of OH 231.8+4.2 (OH 0739−14). *Robert G. Smith, K. Sellgren, & Alan T. Tokunaga.* 334, 209, 156-E10 (1988)

Absorption Features in the 3 Micron Spectra of Protostars. *Robert G. Smith, K. Sellgren, & Alan T. Tokunaga.* 344, 413, 138-B2 (1989)

TOLLESTRUP, E. V. The Genesis of the Ring Galaxy Arp 144 (NGC 7828/29). *Marshall Joy, H. B. Ellis, Jr., E. V. Tollestrup, D. Brock, J. L. Higdon, & P. M. Harvey.* 330, L29, 96-E10 (1988)

TOMANEY, A. B. The Hα Light Curves of Novae in M31. *Robin Ciardullo, Allen W. Shafter, Holland C. Ford, James D. Neill, Michael M. Shara, & A. B. Tomaney.* 356, 472, 106-B10 (1990)

TOMASCH, A. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)

TOMCZYK, STEVEN. On the Constancy of Intermediate-Degree *p*-Mode Frequencies during the Declining Phase of Solar Cycle 21. *Edward J. Rhodes, Jr., Martin F. Woodard, Alessandro Cacciani, Steven Tomczyk, Sylvain G. Korzennik, & Roger K. Ulrich.* 326, 479, 37-E4 (1988)

Depth and Latitude Dependence of the Solar Internal Angular Velocity. *Edward J. Rhodes, Jr., Alessandro Cacciani, Sylvain Korzennik, Steven Tomczyk, Roger K. Ulrich, & Martin F. Woodard.* 351, 687, 48-F1 (1990)

TOMIMATSU, AKIRA. Magnetohydrodynamic Flows in Kerr Geometry: Energy Extraction from Black Holes. *Masaaki Takahashi, Shinya Nitta, Yoshinori Tatematsu, & Akira Tomimatsu.* 363, 206, 184-F4 (1990)

TOMIMURA, NAZIRA. Inhomogeneous Cosmological Models: New Exact Solutions with Dust, Isotropic Radiation, and Electromagnetic Field. *Nazira Tomimura & Ioav Waga.* 317, 52, 64-E2 (1987)

TOMINAGA, T. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

TOMISAKA, KOHJI. The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. I. Basic Equations and Numerical Methods. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 326, 208, 34-D7 (1988)

Starburst Nucleus: Galactic Scale Bipolar Flow. *Kohji Tomisaka & Satoru Ikeuchi.* 330, 695, 100-B6 (1988)

Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. II. The Extreme Case: Nonrotating Clouds. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 335, 239, 173-B9 (1988)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. III. Critical Mass. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 341, 220, 86-F1 (1989)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. III. Critical Mass: Erratum. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 346, 1061, 180-C3 (1989) (Orig. paper in 341, 220, 86-F1 (1989))

Blowout of Superbubble in Galactic Magnetic Field. *Kohji Tomisaka.* 361, L5, 161-C12 (1990)

The Equilibria and Evolutions of Magnetized, Rotating, Isothermal Clouds. IV. Quasi-static Evolution. *Kohji Tomisaka, Satoru Ikeuchi, & Takashi Nakamura.* 362, 202, 171-F3 (1990)

TOMITA, KENJI. Cosmic Microwave Anisotropies and Large-Scale Velocity Fields in Isocurvature Hot Dark Matter Models. *Naoshi Sugiyama, Misao Sasaki, & Kenji Tomita.* 338, L45, 49-B1 (1989)

Cosmological Observations in an Inhomogeneous Universe. *Kazuya Watanabe & Kenji Tomita.* 355, 1, 87-A12 (1990)

TOMKIN, JOCELYN. Carbon Abundances in Halo Dwarfs. *Jocelyn Tomkin, Christopher Sneden, & David L. Lambert.* 302, 415, 32-G1 (1986)

Heavy-Element Abundances in the Mild Barium Stars Omicron Virginis and 16 Serpentis. *Jocelyn Tomkin & David L. Lambert.* 311, 819, 156-F12 (1986)

TONER, C. G. Rotation and Macroturbulence in Bright Giants. *David F. Gray & C. G. Toner.* 310, 277, 135-A13 (1986)

An Analysis of the Photospheric Line Profiles in F, G, and K Supergiants. *David F. Gray & C. G. Toner.* 322, 360, 141-G1 (1987)

The Star Patch on the G8 Dwarf χ Bootis A. *C. G. Toner & David F. Gray.* 334, 1008, 167-F2 (1988)

TONRY, J. The Southern Sky Redshift Survey. *L. Nicolaci da Costa, P. S. Pellegrini, W. L. W. Sargent, J. Tonry, M. Davis, A. Meiksin, David W. Latham, J. W. Menzies, & I. A. Coulson.* 327, 544, 54-F1 (1988)

TONRY, JOHN L. Density Cusps in Clusters of Galaxies. *Timothy C. Beers & John L. Tonry.* 300, 557, 9-B13 (1986)

A Central Black Hole in M32. *John L. Tonry.* 322, 632, 146-F7 (1987)

Surface Brightness Fluctuations and the Distance to the Virgo Cluster. *John L. Tonry, Edward A. Ajhar, & Gerard A. Luppino.* 346, L57, 181-B8 (1989)

TONWAR, S. C. Observations of Steady Flux of PeV–Energy Extensive Air Showers from Cygnus X-3 during 1984–1986. *S. C. Tonwar, N. V. Gopalakrishnan, M. R. Rajeev, & B. V. Sreekantan.* 330, L107, 104-G7 (1988)

Episodic Emission from Hercules X-1 at Energies Greater than 10^{14} eV: Observations with Ooty Extensive Air Shower Array during 1986. *S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, R. Srivatsan, & S. C. Tonwar.* 354, L13, 80-B8 (1990)

TOOMEY, D. Infrared Spectroscopy, Imaging, and 10 Micron Photometry of Giclas 29-38. *A. T. Tokunaga, K.-W. Hodapp, E. E. Becklin, D. P. Cruikshank, M. Rigler, D. Toomey, R. H. Brown, & B. Zuckerman.* 332, L71, 137-D1 (1988)

TOOMRE, JURI. Nonlinear Compressible Convection Penetrating into Stable Layers and Producing Internal Gravity Waves. *Neal E. Hurlburt, Juri Toomre, & Josep M. Massaguer.* 311, 563, 154-A10 (1986)

Magnetic Fields Interacting with Nonlinear Compressible Convection. *Neal E. Hurlburt & Juri Toomre.* 327, 920, 58-F6 (1988)

Supersonic Convection. *Fausto Cattaneo, Neal E. Hurlburt, & Juri Toomre.* 349, L63, 24-D6 (1990)

Nonlinear Behavior of Solar Gravity Modes Driven by ^{3}He in the Core. I. Bifurcation Analysis. *William J. Merryfield, Juri Toomre, & Douglas Gough.* 353, 678, 72-C8 (1990)

TOPKA, K. P. High-Resolution Observations of Changing Magnetic Features on the Sun. *K. P. Topka, T. D. Tarbell, & A. M. Title.* 306, 304, 84-F3 (1986)

On the Relation between Magnetic Field Structures and Granulation. *A. M. Title, T. D. Tarbell, & K. P. Topka.* 317, 892, 75-G3 (1987)

On the Relation between Photospheric Flow Fields and the Magnetic Field Distribution on the Solar Surface. *George W. Simon, A. M. Title, K. P. Topka, T. D. Tarbell, R. A. Shine, S. H. Ferguson, H. Zirin, & The SOUP Team.* 327, 964, 59-C1 (1988)

Statistical Properties of Solar Granulation Derived from the SOUP Instrument on *Spacelab 2*. *A. M. Title, T. D. Tarbell, K. P. Topka, S. H. Ferguson, R. A. Shine, & The SOUP Team.* 336, 475, 7-A10 (1989)

TORBETT, MICHAEL V. Radio Emission from the Nova-like Variable AC Cancri and the Symbiotic Variable AG Draconis. *Michael V. Torbett & Bel Campbell.* 318, L29, 85-C2 (1987)

Radio Emission from Symbiotic Variables: CI Cygni, Z Andromedae, and EG Andromedae—Temporal Variability as Clues to the Nature of Symbiotics. *Michael V. Torbett & Bel Campbell.* 340, L73, 83-D1 (1989)

TORII, S. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata,*

H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration). 344, L17, 140-B9 (1989)

TORNAMBÈ, A. Subluminous Type 1 Supernovae: Their Theoretical Rate in Our Galaxy and in Ellipticals. *A. Tornambè & F. Matteucci.* 318, L25, 85-B12 (1987)

The Effect of Enhanced α-Elements in Helium-burning Population II Stars. *D. Bencivenni, V. Castellani, A. Tornambè, & A. Weiss.* 71, 109, 35-D3 (1989)

Synthetic Colors and the Chemical Evolution of Elliptical Galaxies. *E. Brocato, F. Matteucci, I. Mazzitelli, & A. Tornambè.* 349, 458, 20-G11 (1990)

TORNAMBÈ, A., JR. The "Red Giant Clock" as an Indicator for the Efficiency of Central Mixing in Horizontal-Branch Stars. *F. Caputo, V. Castellani, A. Chieffi, L. Pulone, & A. Tornambè, Jr.* 340, 241, 70-A10 (1989)

TORNAMBÈ, AMEDEO. On the Interpretation of the Sandage Period-Shift Effect among Globular Cluster RR Lyrae Variables. *Allen V. Sweigart, Alvio Renzini, & Amedeo Tornambè.* 312, 762, 11-C4 (1987)

On Interacting Helium Star–White Dwarf Pairs as Supernova Precursors. *Icko Iben, Jr., Ken'ichi Nomoto, Amedeo Tornambè, & Alexander V. Tutukov.* 317, 717, 73-G11 (1987)

TORRELLES, J. M. The Double Radio Source Associated with L1551 IRS 5: Binary System or Ionized Circumstellar Torus? *L. F. Rodríguez, J. Cantó, J. M. Torrelles, & P. T. P. Ho.* 301, L25, 20-C10 (1986)

TORRELLES, JOSÉ M. The Kinematic Temperature Gradient and the Structure of a Thin Molecular Disk in Cepheus A. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 305, 721, 76-F10 (1986)

Ammonia Observations of Regions with Molecular Outflows. *José M. Torrelles, Paul T. P. Ho, James M. Moran, Luis F. Rodríguez, & Jorge Cantó.* 307, 787, 105-E9 (1986)

Interaction of the High-Density Gas with the Bipolar Outflow in Cepheus A. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & James M. Moran.* 321, 884, 134-C1 (1987)

Ammonia Observations of Outflow Regions. *Guillem Anglada, Luis F. Rodríguez, José M. Torrelles, Robert Estalella, Paul T. P. Ho, Jorge Cantó, Rosario López, & Lourdes Verdes-Montenegro.* 341, 208, 86-E1 (1989)

NH_3 Observations of the AFGL 2591 Region: A Possible Cavity in the Molecular Cloud. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 343, 222, 121-A5 (1989)

Further Studies of the Role of Dense Molecular Clouds around Outflow Sources. *Lourdes Verdes-Montenegro, José M. Torrelles, Luis F. Rodríguez, Guillem Anglada, Rosario López, Robert Estalella, Jorge Cantó, & Paul T. P. Ho.* 346, 193, 168-E1 (1989)

VLA Observations of Ammonia and Continuum in Regions with High-Velocity Gaseous Outflows. II. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & Lourdes Verdes-Montenegro.* 346, 756, 176-F8 (1989)

Monoceros R2: Interactions of a Molecular Cloud Core with a Stellar Wind? *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, & Jorge Cantó.* 349, 529, 21-G8 (1990)

VLA Observations of the Herbig-Haro 1-2 System. *Luis F. Rodríguez, Paul T. P. Ho, José M. Torrelles, Salvador Curiel, & Jorge Cantó.* 352, 645, 59-A11 (1990)

TORRES, ANA V. Spectroscopic Studies of Wolf-Rayet Stars. III. The WC Subclass. *Ana V. Torres, Peter S. Conti, & Philip Massey.* 300, 379, 5-B13 (1986)

Radio Emission from Galactic Wolf-Rayet Stars and the Structure of Wolf-Rayet Winds. *David C. Abbott, J. H. Bieging, E. Churchwell, & Ana V. Torres.* 303, 239, 43-F9 (1986)

An Atlas of Optical Spectrophotometry of Wolf-Rayet Carbon and Oxygen Stars. *Ana V. Torres & Philip Massey.* 65, 459, 35-A2 (1987)

Ultraviolet Interstellar Extinction toward NGC 6530 and the Intrinsic Energy Distribution of 9 Sagittarii and HD 165052. *Ana V. Torres.* 322, 949, 150-C7 (1987)

Carbon and Helium Abundances in Wolf-Rayet WC Stars Determined from Optical Recombination Lines. *Ana V. Torres.* 325, 759, 28-G9 (1988)

TORRES, CARLOS A. O. Discovery of New Isolated T Tauri Stars. *Ramiro de la Reza, Carlos A. O. Torres, Germano Quast, Bruno V. Castilho, & Gladys L. Vieira.* 343, L61, 132-D1 (1989)

TORRES-DODGEN, ANA V. Color Excesses, Intrinsic Colors, and Absolute Magnitudes of Galactic and Large Magellanic Cloud Wolf-Rayet Stars. *William D. Vacca & Ana V. Torres-Dodgen.* 73, 685, 27-F1 (1990)

TORRES-PEIMBERT, S. Physical Conditions of H II Regions in M101 and the Pregalactic Helium Abundance. *S. Torres-Peimbert, M. Peimbert, & J. Fierro.* 345, 186, 151-D4 (1989)

TORRICELLI-CIAMPONI, GUIDETTA. Extragalactic Jets as Current-carrying Systems. III. Energy Requirements and Critical Discussion. *Guidetta Torricelli-Ciamponi & Paola Pietrini.* 361, 32, 157-D7 (1990)

TOSI, M. DDO 210: The Actual Appearance of a "Ghost" Irregular Galaxy. *G. Marconi, P. Focardi, L. Greggio, & M. Tosi.* 360, L39, 156-C1 (1990)

TÓTH, G. Angular Cross-Correlation of Abell Clusters in Different Distance Classes. *A. S. Szalay, J. Hollósi, & G. Tóth.* 339, L5, 58-A11 (1989)

TÓTH, GÁBOR. Three-Point Correlations of Galaxy Clusters. *Gábor Tóth, Joseph Hollósi, & Alexander S. Szalay.* 344, 75, 134-A6 (1989)

TOTSUKA, Y. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

TOUKAN, K. A. The Stellar Neutron Capture Cross Sections of ^{94}Zr and ^{96}Zr. *K. A. Toukan & F. Käppeler.* 348, 357, 5-D7 (1990)

TOUSEY, R. The High-Resolution Solar Spectrum, 1175–1710 Å. *G. D. Sandlin, J.-D. F. Bartoe, G. E. Brueckner, R. Tousey, & M. E. VanHoosier.* 61, 801, 29-A4 (1986)

TOUT, C. A. The Distribution of Visual Binaries with Two Bright Components. *P. P. Eggleton, M. J. Fitchett, & C. A. Tout.* 347, 998, 196-A1 (1989)

The Distribution of Visual Binaries with Two Bright Components: Erratum. *P. P. Eggleton, M. J. Fitchett, & C. A. Tout.* 354, 387, 79-A10 (1990) (Orig. paper in 347, 998, 196-A1 (1989))

TOUT, CHRISTOPHER A. The Formation of Algols without Catastrophes. *Christopher A. Tout & Peter P. Eggleton.* 334, 357, 158-D9 (1988)

Constraints on Cataclysmic Variable Evolution from the Triple System 4 Draconis. *Peter P. Eggleton, Charles D. Bailyn, & Christopher A. Tout.* 345, 489, 155-B11 (1989)

TOWNES, C. H. [C II] 158 Micron Mapping in Sagittarius A: Rotation Curve and Mass Distribution in the Galactic Center. *J. B. Lugten, R. Genzel, M. K. Crawford, & C. H. Townes.* 306, 691, 92-B4 (1986)

High-Resolution [Ne II] Observations of the Ionized Filaments in the Galactic Center. *E. Serabyn, J. H. Lacy, C. H. Townes, & R. Bharat.* 326, 171, 34-A5 (1988)

High Spatial Resolution 10 Micron Imaging of IRC +10216. *E. E. Bloemhof, W. C. Danchi, C. H. Townes, & R. A. McLaren.* 333, 300, 141-D2 (1988)

Far-Infrared, Submillimeter, and Millimeter Spectroscopy of the Galactic Center: Radio Arc and +20/+50 Kilometer per Second Clouds. *R. Genzel, G. J. Stacey, A. I. Harris, C. H. Townes, N. Geis, U. U. Graf, A. Poglitsch, & J. Stutzki.* 356, 160, 101-A9 (1990)

Location and Phase of Dust Formation in IRC +10216 Indicated by 11 Micron Spatial Interferometry. *W. C. Danchi, M. Bester, C. G. Degiacomi, P. R. McCullough, & C. H. Townes.* 359, L59, 144-C10 (1990)

TOWNSLEY, L. K. Fine-Scale Motion in NGC 6514 and NGC 6523. *C. R. O'Dell, L. K. Townsley, & Hector O. Castañeda.* 317, 676, 73-D10 (1987)

TOYODA, Y. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar,*

O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino. 326, 1036, 45-A5 (1988)

TOZZI, G. P. Absolute Oscillator Strengths for 108 Lines of Si I between 163 and 410 Nanometers. *Peter L. Smith, M. C. E. Huber, G. P. Tozzi, H. E. Griesinger, B. L. Cardon, & G. G. Lombardi.* 322, 573, 144-B12 (1987)

TRAFTON, L. Unidentified Emission Lines in Jupiter's Northern and Southern 2 Micron Aurorae. *L. Trafton, D. F. Lester, & K. L. Thompson.* 343, L73, 132-E1 (1989)

A Two-Component Volatile Atmosphere for Pluto. I. The Bulk Hydrodynamic Escape Regime. *L. Trafton.* 359, 512, 142-D4 (1990)

TRAFTON, L. M. The First UV Spectrum of Triton: *IUE* Observations from 2600 to 3200 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 341, L107, 100-D1 (1989)

The UV Spectrum of Pluto-Charon: *IUE* Observations from 2600 to 3100 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 342, 533, 107-C7 (1989)

TRASCHEN, J. Causality Constraints on Cosmological Perturbations. *L. F. Abbott & J. Traschen.* 302, 39, 28-D3 (1986)

TRAUGER, J. T. The Structure of Io's Thermal Corona and Implications for Atmospheric Escape. *M. E. Summers, D. F. Strobel, Y. L. Yung, J. T. Trauger, & F. Mills.* 343, 468, 123-G5 (1989)

TREMAINE, SCOTT. Can Comet Clouds around Neutron Stars Explain Gamma-Ray Bursts? *Scott Tremaine & Anna N. Zytkow.* 301, 155, 15-E12 (1986)

Distant Satellites as Probes of Our Galaxy's Mass Distribution. *Blane Little & Scott Tremaine.* 320, 493, 114-G6 (1987)

Evolutionary Corrections to the Redshift-Volume Measurement of the Density Parameter. *Safi R. Bahcall & Scott Tremaine.* 326, L1, 38-A4 (1988)

Maximum-Entropy Models of Galaxies. *Douglas O. Richstone & Scott Tremaine.* 327, 82, 47-G9 (1988)

The Origin of Short-Period Comets. *Martin Duncan, Thomas Quinn, & Scott Tremaine.* 328, L69, 74-F9 (1988)

The Local Galactic Escape Speed. *Peter J. T. Leonard & Scott Tremaine.* 353, 486, 70-A13 (1990)

Planetary Perturbations and the Origin of Short-Period Comets. *Thomas Quinn, Scott Tremaine, & Martin Duncan.* 355, 667, 96-G9 (1990)

SLING Amplification and Eccentric Gravitational Instabilities in Gaseous Disks. *Frank H. Shu, Scott Tremaine, Fred C. Adams, & Steven P. Ruden.* 358, 495, 129-F7 (1990)

TRESCH-FIENBERG, R. Structure in the Nucleus of NGC 1068 at 10 Microns. *R. Tresch-Fienberg, G. G. Fazio, D. Y. Gezari, W. F. Hoffmann, G. M. Lamb, P. K. Shu, & C. R. McCreight.* 312, 542, 8-G2 (1987)

TRESTER, JEFFREY J. Models of Steady State Cooling Flows in Elliptical Galaxies. *Peter W. Vedder, Jeffrey J. Trester, & Claude R. Canizares.* 332, 725, 132-C3 (1988)

The Effect of Hot Gas in Early-Type Galaxies on the Cosmic Microwave Background. *Jeffrey J. Trester & Claude R. Canizares.* 347, 605, 190-F7 (1989)

TREVES, A. Variability of the BL Lacertae Objects PKS 2155–304 and OJ 287 in the Far-Ultraviolet. *L. Maraschi, G. Tagliaferri, E. G. Tanzi, & A. Treves.* 304, 637, 63-A9 (1986)

X-Ray Variability of the BL Lacertae Object PKS 2155–304 in the 0.1–6 keV Range. *M. Morini, L. Chiappetti, D. Maccagni, L. Maraschi, D. Molteni, E. G. Tanzi, A. Treves, & A. Wolter.* 306, L71, 93-G5 (1986)

Spectral Properties of Blazars. I. Objects Observed in the Far-Ultraviolet. *G. Ghisellini, L. Maraschi, E. G. Tanzi, & A. Treves.* 310, 317, 135-D12 (1986)

Spectral Properties of Blazars. II. An X-Ray Observed Sample. *L. Maraschi, G. Ghisellini, E. G. Tanzi, & A. Treves.* 310, 325, 135-E7 (1986)

Gamma-Ray Emission from Accretion onto a Rotating Black Hole. *M. Colpi, L. Maraschi, & A. Treves.* 311, 150, 147-F3 (1986)

Multifrequency Observations of the Blazar PKS 0537–441 in a Moderately Active State. *E. G. Tanzi, P. Barr, P. Bouchet, L. Chiappetti, S. Christiani, R. Falomo, P. Giommi, L. Maraschi, & A. Treves.* 311, L13, 152-B7 (1986)

The Redshift of the BL Lacertae Object PKS 2005–489. *R. Falomo, L. Maraschi, E. G. Tanzi, & A. Treves.* 318, L39, 92-B1 (1987)

X-Ray Spectrum and Variability of the Black Hole Candidate LMC X-3. *A. Treves, T. Belloni, L. Chiappetti, L. Maraschi, L. Stella, E. G. Tanzi, & M. van der Klis.* 325, 119, 20-D8 (1988)

The X-Ray to Infrared Energy Distribution of the Quasar PG 0026+129. *A. Treves, P. Bouchet, L. Chiappetti, A. Ciapi, R. Falomo, L. Maraschi, & E. G. Tanzi.* 330, 178, 92-A3 (1988)

Detection of Extragalactic Absorption in the Ultraviolet Spectrum of the BL Lacertae Object PKS 2155–304. *L. Maraschi, J. C. Blades, C. Calanchi, E. G. Tanzi, & A. Treves.* 333, 660, 147-D1 (1988)

Quasi-simultaneous Ultraviolet Optical and Infrared Observations of the BL Lacertae Object PKS 0048–09. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 335, 122, 171-F1 (1988)

The Ultraviolet-Optical-Infrared Energy Distribution of LMC X-3: Observation of an Accretion Disk around a Black Hole. *A. Treves, T. Belloni, P. Bouchet, L. Chiappetti, R. Falomo, L. Maraschi, & E. G. Tanzi.* 335, 142, 172-A1 (1988)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of the BL Lacertae Object PKS 2155–304. *A. Treves, M. Morini, L. Chiappetti, A. Fabian, R. Falomo, D. Maccagni, L. Maraschi, E. G. Tanzi, & G. Tagliaferri.* 341, 733, 94-D5 (1989)

X-Ray, Ultraviolet, and Optical Observations of the Intermediate Polar FO Aquarii (H2215–086). *L. Chiappetti, T. Belloni, J.-M. Bonnet-Bidaud, C. Del Gratta, D. De Martino, L. Maraschi, M. Mouchet, K. Mukai, J. P. Osborne, R. H. D. Corbet, E. G. Tanzi, & A. Treves.* 342, 493, 106-G1 (1989)

The Ultraviolet to Infrared Energy Distribution of the BL Lacertae Object PKS 0422+00 at Two Different Brightness Levels. *R. Falomo, P. Bouchet, L. Maraschi, E. G. Tanzi, & A. Treves.* 345, 148, 150-G9 (1989)

X-Ray and Ultraviolet Observations of the Seyfert Galaxy MCG 8-11-11. *A. Treves, G. Bonelli, L. Chiappetti, R. Falomo, L. Maraschi, G. Tagliaferri, & E. G. Tanzi.* 359, 98, 135-C7 (1990)

EXOSAT Observations of Cygnus X-2 Continuum and Line Spectrum. *L. Chiappetti, A. Treves, G. Branduardi-Raymont, A. L. Chiapi, E. N. Ercan, P. E. Freeman, S. M. Kahn, L. Maraschi, F. B. S. Paerels, & E. G. Tanzi.* 361, 596, 165-D11 (1990)

Simultaneous X-Ray, Ultraviolet, and Optical Observations of LMC X-3. *A. Treves, T. Belloni, R. H. D. Corbet, K. Ebisawa, R. Falomo, F. Makino, K. Makishima, L. Maraschi, S. Miyamoto, & E. G. Tanzi.* 364, 266, 197-C12 (1990)

TREVES, ALDO. A New Soft X-Ray Mode in the AM Herculis Object E2003+225. *Julian P. Osborne, Klaus Beuermann, Philip Charles, Laura Maraschi, Koji Mukai, & Aldo Treves.* 315, L123, 49-E5 (1987)

TREVESE, D. II Zw 1305.4+2941 at $z = 0.24$: Another Rich, Red, Compact Cluster. *David C. Koo, Richard G. Kron, D. Nanni, D. Trevese, & A. Vignato.* 333, 586, 146-D8 (1988)

TREVESE, DARIO. Quasar Colors: Statistics and Cosmological Evolution. *Emanuele Giallongo & Dario Trevese.* 353, 24, 62-D1 (1990)

TRICKEY, S. B. Graphite DI Layers and the Interstellar Polycyclic Aromatic Hydrocarbon Hypothesis. *S. B. Trickey, G. H. F. Diercksen, & F. Müller-Plathe.* 336, L37, 8-E9 (1989)

TRINCHIERI, G. The X-Ray Surface Brightness Distribution and Spectral Properties of Six Early-Type Galaxies. *G. Trinchieri, G. Fabbiano, & C. R. Canizares.* 310, 637, 140-G9 (1986)

A Statistical Analysis of the *Einstein* Normal Galaxy Sample. III. Radio and X-Ray Properties of Elliptical and S0 Galaxies. *G. Fabbiano, U. Klein, G. Trinchieri, & R. Wielebinski.* 312, 111, 2-C1 (1987)

X-Ray Observations of Spiral Galaxies. II. Images and Spectral Parameters of 13 Galaxies. *G. Fabbiano & G. Trinchieri.* 315, 46, 40-D11 (1987)

The X-Ray Spectral Properties of the Bulge of M31. *G. Fabbiano, G. Trinchieri, & L. S. Van Speybroeck.* 316, 127, 51-D1 (1987)

A Five-Band Study of Spiral Galaxies: X-Ray, Optical, Near- and Far-Infrared, and Radio Continuum Correlations. *G. Fabbiano, I. M. Gioia, & G. Trinchieri.* 324, 749, 11-E6 (1988)

Morphology and Spectral Characteristics of the X-Ray Emission of M33. *G. Trinchieri, G. Fabbiano, & G. Peres.* 325, 531, 26-C11 (1988)

Morphology and Spectral Characteristics of the X-Ray Emission of M33: Erratum. *G. Trinchieri, G. Fabbiano, & G. Peres.* 329, 1037, 88-D10 (1988) (Orig. paper in 325, 531, 26-C11 (1988))

Near-Infrared Observations of Galaxies in the Coma Supercluster. *G. Gavazzi & G. Trinchieri.* 342, 718, 111-D1 (1989)

Far-Infrared Emission and Star Formation in Spiral Galaxies. *G. Trinchieri, G. Fabbiano, & R. Bandiera.* 342, 759, 111-G1 (1989)

Radio Emission and the Hot Interstellar Medium of Early-Type Galaxies. *G. Fabbiano, I. M. Gioia, & G. Trinchieri.* 347, 127, 182-F3 (1989)

Einstein X-Ray Observations of M101. *G. Trinchieri, G. Fabbiano, & S. Romaine.* 356, 110, 100-D7 (1990)

A Highly X-Ray–Variable Active Galactic Nucleus near M101: A Microlensing Candidate. *G. Trinchieri, G. Fabbiano, & Martin Elvis.* 356, 430, 105-E10 (1990)

X-Ray Spectrum of the Spiral Galaxy M51 (NGC 5194). *K. Makishima, T. Ohashi, H. Kondo, G. G. C. Palumbo, & G. Trinchieri.* 365, 159, 208-B3 (1990)

TRINCHIERI, GINEVRA. X-Ray Studies of Galactic and Intergalactic Gas in the Pegasus I Cluster. *Claude R. Canizares, Megan E. Donahue, Ginevra Trinchieri, Gordon C. Stewart, & Thomas A. McGlynn.* 304, 312, 57-C13 (1986)

Properties of the X-Ray Emitting Gas in Early-Type Galaxies. *Claude R. Canizares, Giuseppina Fabbiano, & Ginevra Trinchieri.* 312, 503, 8-D5 (1987)

TRIPICCO, MICHAEL J. Lithium in the Hyades Cluster. *Ann Merchant Boesgaard & Michael J. Tripicco.* 302, L49, 40-D13 (1986)

Lithium in Early F Dwarfs. *Ann Merchant Boesgaard & Michael J. Tripicco.* 303, 724, 50-D10 (1986)

Lithium in F Stars of Known Age. *Ann M. Boesgaard & Michael J. Tripicco.* 313, 389, 19-C8 (1987)

TRIPP, TODD M. *IUE* Observations of PG 1115+080: The He I Gunn-Peterson Test and a Search for the Lensing Galaxy. *Todd M. Tripp, Richard F. Green, & Jill Bechtold.* 364, L29, 205-C7 (1990)

TRITZ, BRADLEY G. Effects of Electron-Positron Pairs on Accretion Flows. *Bradley G. Tritz & Sachiko Tsuruta.* 340, 203, 69-E9 (1989)

TRIVEDI, B. M. P. Chemical Condensation in the Outflowing Matter from the Proto-Sun and Its Application to Meteorites. *B. M. P. Trivedi.* 320, 430, 112-F11 (1987)

TROLAND, T. H. Aperture Synthesis Observations of the 21 Centimeter Zeeman Effect toward Cassiopeia A. *U. J. Schwarz, T. H. Troland, J. S. Albinson, J. D. Bregman, W. M. Goss, & Carl Heiles.* 301, 320, 17-D4 (1986)

Interstellar Magnetic Field Strengths and Gas Densities: Observational and Theoretical Perspectives. *T. H. Troland & Carl Heiles.* 301, 339, 17-E9 (1986)

Detection of the OH Zeeman Effect toward Orion A. *T. H. Troland, R. M. Crutcher, & I. Kazès.* 304, L57, 66-C9 (1986)

The Magnetic Field in the Vicinity of S106. *I. Kazès, T. H. Troland, R. M. Crutcher, & C. Heiles.* 335, 263, 173-D7 (1988)

Aperture Synthesis Observations of the 21 Centimeter Zeeman Effect toward Orion A. *T. H. Troland, C. Heiles, & W. M. Goss.* 337, 342, 21-E9 (1989)

Measurement of Magnetic Field Strength in the Dark Cloud Barnard 1. *A. A. Goodman, R. M. Crutcher, C. Heiles, P. C. Myers, & T. H. Troland.* 338, L61, 49-C5 (1989)

Structure of the Magnetic Field in the W3 Core. *T. H. Troland, R. M. Crutcher, W. M. Goss, & C. Heiles.* 347, L89, 199-E5 (1989)

TROMBKA, J. I. Gamma-Ray Observations of SN 1987A from Antarctica. *A. C. Rester, R. L. Coldwell, F. E. Dunnam, G. Eichhorn, J. I. Trombka, R. Starr, & G. P. Lasche.* 342, L71, 117-D1 (1989)

TROTTET, G. Meter–Decimeter and Microwave Radio Observations of Solar Flares. *M. Pick, K.-L. Klein, & G. Trottet.* 73, 165, 19-G13 (1990)

TROTTET, GERARD. Multiple-Wavelength Analysis of Energy Release during a Solar Flare: Thermal and Nonthermal Electron Populations. *Robert F. Willson, Karl-Ludwig Klein, Alain Kerdraon, Kenneth R. Lang, & Gerard Trottet.* 357, 662, 120-G1 (1990)

TROUP, E. R. Compact Radio Cores in Extremely Luminous Far-Infrared Galaxies. *R. P. Norris, D. A. Allen, R. A. Sramek, M. J. Kesteven, & E. R. Troup.* 359, 291, 139-F1 (1990)

TRÜMPER, J. *EXOSAT* Observations of the 35 Day Cycle of Hercules X-1: Evidence for Neutron Star Precession. *J. Trümper, P. Kahabka, H. Ögelman, W. Pietsch, & W. Voges.* 300, L63, 13-E1 (1986)

Correlation between Spectral State and Quasi-periodic Oscillation Parameters in GX 5-1. *M. van der Klis, F. Jansen, J. van Paradijs, W. H. G. Lewin, M. Sztajno, & J. Trümper.* 313, L19, 21-B7 (1987)

EXOSAT Observations of 4U/MXB 1636–53: On the Relation between the Amount of Accreted Fuel and the Strength of an X-Ray Burst. *W. H. G. Lewin, W. Penninx, J. van Paradijs, E. Damen, M. Sztajno, J. Trümper, & M. van der Klis.* 319, 893, 104-F9 (1987)

EXOSAT Observations of 4U 1705–44: Type I Bursts and Persistent Emission. *A. Langmeier, M. Sztajno, G. Hasinger, J. Trümper, & M. Gottwald.* 323, 288, 156-B13 (1987)

Detection of a Strong Excess Noise Component in the Low State of 4U 1705–44. *A. Langmeier, G. Hasinger, & J. Trümper.* 340, L21, 75-E1 (1989)

TRURAN, J. W. Nuclear Chronometers from the *r*-Process and the Age of the Galaxy. *John J. Cowan, F.-K. Thielemann, & J. W. Truran.* 323, 543, 160-F1 (1987)

The Influence of Our Galaxy on the Evolution of the Magellanic Clouds. *A. Burkert, M. Livio, & J. W. Truran.* 360, 68, 145-G11 (1990)

TRURAN, JAMES. The Shocking Development of Lithium (and Boron) in Supernovae. *David S. P. Dearborn, David N. Schramm, Gary Steigman, & James Truran.* 347, 455, 187-F5 (1989)

TRURAN, JAMES W. Hydrodynamic Models for Novae with Ejecta Rich in Oxygen, Neon, and Magnesium. *Sumner Starrfield, Warren M. Sparks, & James W. Truran.* 303, L5, 47-A11 (1986)

On the Frequency of Occurrence of Oxygen-Neon-Magnesium White Dwarfs in Classical Nova Systems. *James W. Truran & Mario Livio.* 308, 721, 116-G5 (1986)

A Model for the Outbursts of the Recurrent Nova RS Ophiuchi. *Mario Livio, James W. Truran, & Ronald F. Webbink.* 308, 736, 117-A9 (1986)

Chemical Evolution, Stellar Nucleosynthesis, and A Variable Star Formation Rate. *Keith A. Olive, Friedrich-Karl Thielemann, & James W. Truran.* 313, 813, 25-F1 (1987)

The Nature of the Recurrent Novae. *Ronald F. Webbink, Mario Livio, James W. Truran, & Marina Orio.* 314, 653, 36-F9 (1987)

Spin-up and Mixing in Accreting White Dwarfs. *Mario Livio & James W. Truran.* 318, 316, 82-C12 (1987)

On the Composition Dependence of Thermonuclear Runaway Models for the Recurrent Nova U Scorpii. *James W. Truran, Mario Livio, John Hayes, Sumner Starrfield, & Warren M. Sparks.* 324, 345, 5-A3 (1988)

Nova Outbursts in the Case of "Mild Hibernation." *Mario Livio, Anurag Shankar, & James W. Truran.* 325, 282, 22-C1 (1988)

Nova Outbursts on Magnetic White Dwarfs. *Mario Livio, Anurag Shankar, & James W. Truran.* 330, 264, 93-A10 (1988)

On Relative Supernova Rates and Nucleosynthesis Roles. *W. David Arnett, David N. Schramm, & James W. Truran.* 339, L25, 58-C5 (1989)

The Common Envelope Phase in the Outbursts of Classical Novae. *Mario Livio, Anurag Shankar, Andreas Burkert, & James W. Truran.* 356, 250, 102-B11 (1990)

The Recurrent Nova U Scorpii Revisited: Can a Certain Class of Models Be Eliminated? *Wolfgang J. Duschl, Mario Livio, & James W. Truran.* 360, 232, 147-G10 (1990)

TRUSSONI, E. On Wind-Type Flows in Astrophysical Jets. II. Propagation outside the Nucleus and the Case of M87. *A. Ferrari, E. Trussoni, R. Rosner, & K. Tsinganos.* 300, 577, 9-D10 (1986)

On Wind-Type Flows in Astrophysical Jets. III. Temporal Evolution of Perturbations and the Formation of Shocks. *E. Trussoni, A. Ferrari, R. Rosner, & K. Tsinganos.* 325, 417, 23-F11 (1988)

Acceleration by Synchrotron Absorption and Superluminal Sources. *G. Ghisellini, G. Bodo, E. Trussoni, & M. J. Rees.* 362, L1, 174-A7 (1990)

TSAO, C. H. Distributed Reacceleration of Cosmic Rays. *Amri Wandel, David Eichler, John R. Letaw, Rein Silberberg, & C. H. Tsao.* 316, 676, 59-D13 (1987)
An Explanation for Cosmic-Ray Source Abundances Including Nitrogen. *R. Silberberg & C. H. Tsao.* 352, L49, 61-D1 (1990)
Source Composition of Cosmic Rays at Energies 1–1000 TeV per Nucleon. *R. Silberberg, C. H. Tsao, M. M. Shapiro, & P. L. Biermann.* 363, 265, 185-D3 (1990)
TSINGANOS, K. On Wind-Type Flows in Astrophysical Jets. II. Propagation outside the Nucleus and the Case of M87. *A. Ferrari, E. Trussoni, R. Rosner, & K. Tsinganos.* 300, 577, 9-D10 (1986)
On Magnetic Field Stochasticity and Nonthermal Line Broadening in Solar Flares. *E. Antonucci, R. Rosner, & K. Tsinganos.* 301, 975, 26-D4 (1986)
Steady Hydromagnetic Flows in Open Magnetic Fields. I. A Class of Analytic Solutions. *B. C. Low & K. Tsinganos.* 302, 163, 29-F9 (1986)
On Wind-Type Flows in Astrophysical Jets. III. Temporal Evolution of Perturbations and the Formation of Shocks. *E. Trussoni, A. Ferrari, R. Rosner, & K. Tsinganos.* 325, 417, 23-F11 (1988)
Steady Hydromagnetic Flows in Open Magnetic Fields. II. Global Flows with Static Zones. *K. Tsinganos & B. C. Low.* 342, 1028, 115-A2 (1989)
TSINTSADZE, N. L. Radiation from Accelerated Alfvén Solitons in Inhomogeneous Plasmas. *G. S. Lakhina, B. Buti, & N. L. Tsintsadze.* 352, 747, 60-C3 (1990)
TSOUBELIS, D. Friedmann-like Collapsing Model of a Radiating Sphere with Heat Flow. *C. A. Kolassis, N. O. Santos, & D. Tsoubelis.* 327, 755, 56-G9 (1988)
TSUBOI, M. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)
TSUJI, T. V Hydrae: A Carbon Star in Transformation to a Bipolar Nebula. *T. Tsuji, W. Unno, N. Kaifu, H. Izumiura, N. Ukita, S. Cho, & K. Koyama.* 327, L23, 53-C1 (1988)
Phosphorus in the Dense Interstellar Medium. *B. E. Turner, T. Tsuji, J. Bally, M. Guélin, & J. Cernicharo.* 365, 569, 215-C9 (1990)
TSUJI, TAKASHI. Detection of $H^{13}CN$ Maser Emission from the Ground State toward Y Canum Venaticorum. *Hideyuki Izumiura, Nobuharu Ukita, Ryohei Kawabe, Norio Kaifu, Takashi Tsuji, Wasaburo Unno, & Kouichi Koyama.* 323, L81, 158-F10 (1987)
The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)
TSUJIMOTO, TAKUJI. Low-Mass Helium Star Models for Type Ib Supernovae: Light Curves, Mixing, and Nucleosynthesis. *Toshikazu Shigeyama, Ken'ichi Nomoto, Takuji Tsujimoto, & Masa-aki Hashimoto.* 361, L23, 161-F1 (1990)
TSUJIMURA, T. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)
TSUNEMI, HIROSHI. X-Ray Spectra of the Cassiopeia A and Tycho Supernova Remnants and Their Element Abundances. *Hiroshi Tsunemi, Koujun Yamashita, Kuniaki Masai, Satio Hayakawa, & Katsuji Koyama.* 306, 248, 84-A8 (1986)
Isothermality of the Gas in the Coma Cluster. *John P. Hughes, Koujun Yamashita, Yoshiharu Okumura, Hiroshi Tsunemi, & Masaru Matsuoka.* 327, 615, 55-D6 (1988)
An X-Ray Outburst from 4U 0115+63 in 1987 February/March. *Hiroshi Tsunemi & Shunji Kitamoto.* 334, L21, 161-C5 (1988)
Discovery of a Bright X-Ray Nova, GS 2000+25. *Hiroshi Tsunemi, Shunji Kitamoto, Sadanori Okamura, & Diane Roussel-Dupré.* 337, L81, 32-C1 (1989)
Outburst, Identification, and X-Ray Light Curve of GS 1354–64 (=MX 1353–64?, Centaurus X-2?). *Shunji Kitamoto, Hiroshi Tsunemi, Holger Pedersen, Sergio A. Ilovaisky, & Michiel van der Klis.* 361, 590, 165-D3 (1990)
Spatial Structure of the Cygnus Loop in the X-Ray Region above 1.5 keV. *Isamu Hatsukade & Hiroshi Tsunemi.* 362, 566, 177-G1 (1990)
TSURU, T. X-Ray Observations of NGC 253 and M83 with *Ginga*. *T. Ohashi, K. Makishima, T. Tsuru, S. Takano, K. Koyama, & G. C. Stewart.* 365, 180, 208-D9 (1990)
Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)
TSURUTA, SACHIKO. Confronting X-Ray Observations of Young Supernova Remnants with Neutron Star Cooling Models. *Ken'ichi Nomoto & Sachiko Tsuruta.* 305, L19, 74-B7 (1986)
Cooling of Neutron Stars: Effects of the Finite Time Scale of Thermal Conduction. *Ken'ichi Nomoto & Sachiko Tsuruta.* 312, 711, 10-F4 (1987)
Effects of Electron-Positron Pairs on Accretion Flows. *Bradley G. Tritz & Sachiko Tsuruta.* 340, 203, 69-E9 (1989)
Gamma Rays, X-Rays, and Optical Light from the Cobalt and the Neutron Star in SN 1987A. *Shiomi Kumagai, Toshikazu Shigeyama, Ken'ichi Nomoto, Masayuki Itoh, Jun Nishimura, & Sachiko Tsuruta.* 345, 412, 154-C5 (1989)
TUBBS, DAVID L. Neutrino Emission by the Pair, Plasma, and Photo Processes in the Weinberg-Salam Model. *Paul J. Schinder, David N. Schramm, Paul J. Wiita, Steven H. Margolis, & David L. Tubbs.* 313, 531, 22-E9 (1987)
TUCHMAN, Y. The Dynamical Consequences of a Red Giant–Main-Sequence Collision. *E. Livne & Y. Tuchman.* 332, 271, 126-B7 (1988)
Supernova 1987A: The Evolution from Blue to Red. *Y. Tuchman & J. Craig Wheeler.* 344, 835, 144-F1 (1989)
SN 1987A: The Evolution from Red to Blue. *Y. Tuchman & J. Craig Wheeler.* 346, 417, 171-C4 (1989)
Structure and Evolution of Irradiated Accretion Disks. I. Static Thermal Equilibrium Structure. *Y. Tuchman, S. Mineshige, & J. C. Wheeler.* 359, 164, 136-B1 (1990)
Structure and Evolution of Irradiated Accretion Disks. II. Dynamical Evolution of a Thermally Unstable Torus. *S. Mineshige, Y. Tuchman, & J. C. Wheeler.* 359, 176, 136-C1 (1990)
Theoretical Model of Red Variables in Globular Clusters. *M. Perl & Y. Tuchman.* 360, 554, 153-B5 (1990)
Large Magellanic Cloud Helium-rich Peculiar Blue Supergiants and SN 1987A. *Y. Tuchman & J. Craig Wheeler.* 363, 255, 185-C5 (1990)
TUCKER, W. Hot Coronae around Early-Type Galaxies: Erratum. *W. Forman, C. Jones, & W. Tucker.* 300, 836, 12-C11 (1986) (Orig. paper in 293, 102, 59-A10 (1985))
TUCKER, W. H. Production of the Diffuse X-Ray Background Spectrum by Active Galactic Nuclei. *D. A. Schwartz & W. H. Tucker.* 332, 157, 124-G1 (1988)
On Magnetic Fields, Heating and Thermal Conduction in Halos, and the Suppression of Cooling Flows. *R. Rosner & W. H. Tucker.* 338, 761, 43-C6 (1989)
TUCKER, WALLACE H. The X-Ray Background and the Evolution of Quasars. *Wallace H. Tucker & Daniel A. Schwartz.* 308, 53, 108-E11 (1986)
TUELLER, J. Observations of Gamma-Ray Line Profiles from SN 1987A. *J. Tueller, S. Barthelmy, N. Gehrels, B. J. Teegarden, M. Leventhal, & C. J. MacCallum.* 351, L41, 49-D1 (1990)
TULLY, R. BRENT. Alignment of Clusters and Galaxies on Scales up to 0.1*c*. *R. Brent Tully.* 303, 25, 41-C4 (1986)
Nearby Groups of Galaxies. II. An All-Sky Survey within 3000 Kilometers per Second. *R. Brent Tully.* 321, 280, 125-C7 (1987)
More About Clustering on a Scale of 0.1 *c*. *R. Brent Tully.* 323, 1, 153-A7 (1987)
Distances to the Virgo and Ursa Major Clusters and a Determination of H_0. *Michael J. Pierce & R. Brent Tully.* 330, 579, 98-G7 (1988)
Clustering Bias in the Nearby Galaxies Catalog and in Cold Dark Matter Models. *Simon D. M. White, R. Brent Tully, & Marc Davis.* 333, L45, 152-B13 (1988)

The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

Imaging Spectrophotometry of Ionized Gas in NGC 1068. I. Kinematics of the Narrow-Line Region. *Gerald Cecil, Jonathan Bland, & R. Brent Tully.* 355, 70, 87-G10 (1990)

Classification of Galaxies on CCD Frames. *Sidney van den Bergh, Michael J. Pierce, & R. Brent Tully.* 359, 4, 134-B5 (1990)

TUMER, O. TUMAY. A Search for Gamma Rays of 1.5–20.0 MeV from Centaurus A. *Terrence O'Neill, O. Tumay Tumer, Allen Zych, & R. Stephen White.* 339, 78, 51-A2 (1989)

TUOHY, I. R. The Discovery of Eight Bright Active Galactic Nuclei Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, H. V. Bradt, D. A. H. Buckley, W. Roberts, D. A. Schwartz, I. R. Tuohy, & K. Wood.* 301, 742, 23-F5 (1986)

Simultaneous X-Ray and Optical Observations of GX 339–4 in an X-Ray High State. *K. Makishima, Y. Maejima, K. Mitsuda, H. V. Bradt, R. A. Remillard, I. R. Tuohy, R. Hoshi, & M. Nakagawa.* 308, 635, 116-A1 (1986)

Identification of Two Southern X-Ray Emitting Cataclysmic Variables. *I. R. Tuohy, D. A. H. Buckley, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 311, 275, 149-A12 (1986)

Discovery of Three New RS Canum Venaticorum–like Counterparts to *HEAO 1* X-Ray Sources. *D. A. H. Buckley, I. R. Tuohy, R. A. Remillard, H. V. Bradt, & D. A. Schwartz.* 315, 273, 42-G14 (1987)

Absorption Features from the Accretion Column in E1405–451. *D. T. Wickramasinghe, I. R. Tuohy, & N. Visvanathan.* 318, 326, 82-D8 (1987)

EXO 033319–2554.2: An Eclipsing AM Herculis System Showing Cyclotron Emission Features. *Lilia Ferrario, D. T. Wickramasinghe, Jeremy Bailey, I. R. Tuohy, & J. H. Hough.* 337, 832, 29-C7 (1989)

Limits on an Optical Pulsar in Supernova 1987A. *C. R. Pennypacker, J. A. Kristian, J. Middleditch, M. A. Hamuy, J. N. Imamura, W. E. Kunkel, D. E. Morris, R. A. Muller, S. Perlmutter, S. J. Rawlings, T. P. Sasseen, I. K. Shelton, T. Y. Steiman-Cameron, & I. R. Tuohy.* 340, L61, 83-C1 (1989)

An Emission-Line Model for AM Herculis Systems. *Lilia Ferrario, D. T. Wickramasinghe, & I. R. Tuohy.* 341, 327, 87-G10 (1989)

A Spectroscopic, Photometric, and X-Ray Study of the DQ Herculis System 1H0542–407. *D. A. H. Buckley & I. R. Tuohy.* 344, 376, 137-F1 (1989)

Two X-Ray–selected BL Lacertae Objects Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, I. R. Tuohy, R. J. V. Brissenden, D. A. H. Buckley, D. A. Schwartz, E. D. Feigelson, & S. Tapia.* 345, 140, 150-F11 (1989)

H0534–581: A New Intermediate Polar? *D. A. H. Buckley & I. R. Tuohy.* 349, 296, 17-E4 (1990)

H1722+119: A Highly Polarized X-Ray–selected BL Lacertae Object. *R. J. V. Brissenden, R. A. Remillard, I. R. Tuohy, D. A. Schwartz, & P. L. Hertz.* 350, 578, 33-D1 (1990)

LB 1800: A Bright Eclipsing Cataclysmic Variable and a Transient X-Ray Source. *D. A. H. Buckley, D. J. Sullivan, R. A. Remillard, I. R. Tuohy, & M. Clark.* 355, 617, 96-C1 (1990)

1H 0709–360: A Cataclysmic Variable with an Orbital Period inside the "Period Gap." *I. R. Tuohy, R. A. Remillard, R. J. V. Brissenden, & H. V. Bradt.* 359, 204, 136-E9 (1990)

High-Resolution Imaging and the H-R Diagram of Galactic Bulge Planetary Nebulae. *M. A. Dopita, J. P. Henry, I. R. Tuohy, B. L. Webster, E. H. Roberts, Y.-I. Byun, L. L. Cowie, & A. Songaila.* 365, 640, 216-B10 (1990)

TUOHY, IAN R. Evidence for Nonpolar Emission in a New AM Herculis Candidate. *Ian R. Tuohy, Lilia Ferrario, D. T. Wickramasinghe, & M. R. S. Hawkins.* 328, L59, 74-E11 (1988)

X-Ray Imaging Observation of the Supernova Remnant PKS 1209–52 and Its Central Compact X-Ray Source. *Yutaka Matsui, Knox S. Long, & Ian R. Tuohy.* 329, 838, 86-C1 (1988)

TUOMINEN, ILKKA. Relations between Broad-Band Linear Polarization and Ca II H and K Emission in Late-Type Dwarf Stars. *Juhani Huovelin, Steven H. Saar, & Ilkka Tuominen.* 329, 882, 86-F6 (1988)

TURATTO, MASSIMO. Padova 1: A Heavily Obscured Seyfert Galaxy in Aquila. *Franco Sabbadin, Enrico Cappellaro, Luciano Salvadori, & Massimo Turatto.* 347, L5, 189-B5 (1989)

Distances of the Virgo and Coma Clusters of Galaxies through Novae and Supernovae. *Massimo Capaccioli, Enrico Cappellaro, Massimo Della Valle, Mauro D'Onofrio, Leonida Rosino, & Massimo Turatto.* 350, 110, 26-D1 (1990)

The Optical Variability of the Quasar 3C 446. *Cesare Barbieri, Roberto Vio, Enrico Cappellaro, & Massimo Turatto.* 359, 63, 134-G1 (1990)

TURCK-CHIÈZE, S. Revisiting the Standard Solar Model. *S. Turck-Chièze, S. Cahen, M. Cassé, & C. Doom.* 335, 415, 175-C1 (1988)

TURNER, B. E. Detection of Interstellar Vibrationally Excited HCN. *L. M. Ziurys & B. E. Turner.* 300, L19, 7-B10 (1986)

$HCNH^+$: A New Interstellar Molecular Ion. *L. M. Ziurys & B. E. Turner.* 302, L31, 35-C4 (1986)

A Search for Interstellar Neutral Sodium at 17 Centimeter Wavelength. *B. E. Turner.* 314, 363, 32-B6 (1987)

Detection of Interstellar PN: The First Identified Phosphorus Compound in the Interstellar Medium. *B. E. Turner & John Bally.* 321, L75, 129-G11 (1987)

Rotationally Excited Interstellar CH: Detection of Satellite Lines and Analysis of Abundance and Excitation. *B. E. Turner.* 329, 425, 79-F11 (1988)

Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

The Absence of Interstellar HCCO and the Bates Dissociative Recombination Theory. *B. E. Turner & Trevor J. Sears.* 340, 900, 79-E7 (1989)

A Molecular Line Survey of Sagittarius B2 and Orion-KL from 70 to 115 GHz. I. The Observational Data. *B. E. Turner.* 70, 539, 26-C1 (1989)

On the Nature of the Molecular Cores in High-Latitude Cirrus Clouds. I. A Survey of H_2CO (2 Centimeter), C_3H_2, and HC_3N. *B. E. Turner, Lee J Rickard, & Lan-ping Xu.* 344, 292, 136-F2 (1989)

Detection of Interstellar C_4D: Implications for Ion-Molecule Chemistry. *B. E. Turner.* 347, L39, 189-E5 (1989)

Searches for the Protonated Interstellar Species HC_3NH^+, CH_3CNH^+, and $HOCS^+$: Implications for Ion-Molecule Chemistry. *B. E. Turner, T. Amano, & P. A. Feldman.* 349, 376, 18-E1 (1990)

Interstellar Cyanomethane. *B. E. Turner, P. Friberg, W. M. Irvine, S. Saito, & S. Yamamoto.* 355, 546, 95-C4 (1990)

Detection of Doubly Deuterated Interstellar Formaldehyde (D_2CO): An Indicator of Active Grain Surface Chemistry. *B. E. Turner.* 362, L29, 174-D1 (1990)

Phosphorus in the Dense Interstellar Medium. *B. E. Turner, T. Tsuji, J. Bally, M. Guélin, & J. Cernicharo.* 365, 569, 215-C9 (1990)

TURNER, E. L. The Triple Radio Source 0023+171: A Candidate for a Dark Gravitational Lens. *J. N. Hewitt, E. L. Turner, C. R. Lawrence, D. P. Schneider, J. E. Gunn, C. L. Bennett, B. F. Burke, J. H. Mahoney, G. I. Langston, M. Schmidt, J. B. Oke, & J. G. Hoessel.* 321, 706, 132-C5 (1987)

Radio Observations of a Candidate Cosmic String Gravitational Lens. *J. N. Hewitt, R. A. Perley, E. L. Turner, & E. M. Hu.* 356, 57, 99-F10 (1990)

TURNER, EDWIN L. Gravitational Lensing Limits on the Cosmological Constant in a Flat Universe. *Edwin L. Turner.* 365, L43, 219-B1 (1990)

TURNER, JEAN L. Infrared Spectroscopy of Star Formation in Interacting Galaxies. *Sara C. Beck, Jean L. Turner, & Paul T. P. Ho.* 309, 70, 120-F14 (1986)

Recombination Spectroscopy of Star-Formation Regions in the Nucleus of M83. *Jean L. Turner, Paul T. P. Ho, & Sara C. Beck.* 313, 644, 23-G2 (1987)

H_2O Maser Emission from the Nuclei of NGC 253 and M51. *Paul T. P. Ho, Robert N. Martin, Christian Henkel, & Jean L. Turner.* 320, 663, 117-A12 (1987)

Hot Gas in the Nucleus of IC 342: Detection of $J = 3$–2 CO Emission. *Paul T. P. Ho, Jean L. Turner, & Robert N. Martin.* 322, L67, 152-B3 (1987)

Excess 10 Micron Emission in Extragalactic Nuclei. *Paul T. P. Ho, Jean L. Turner, Giovanni G. Fazio, & S. P. Willner.* 344, 135, 134-F8 (1989)

Brackett Line Spectroscopy of Bursts of Star Formation in the Nuclei of Galaxies. *Paul T. P. Ho, Sara C. Beck, & Jean L. Turner.* 349, 57, 14-F6 (1990)

Hot Gas in the Nucleus of M82: ^{12}CO and ^{13}CO $J = 3$–2 Observations. *Jean L. Turner, Robert N. Martin, & Paul T. P. Ho.* 351, 418, 45-C5 (1990)

VLA Imaging of Extragalactic Ammonia: Hot Gas in the Nucleus of IC 342. *Paul T. P. Ho, Robert N. Martin, Jean L. Turner, & James M. Jackson.* 355, L19, 92-C1 (1990)

15 GHz Compact Structure in Galactic Nuclei. *Patricia Carral, Jean L. Turner, & Paul T. P. Ho.* 362, 434, 175-G8 (1990)

TURNER, K. C. 5 GHz Radio Structure and Optical Identifications of Sources from the MG Survey. II. Maps and Finding Charts. *C. R. Lawrence, C. L. Bennett, J. N. Hewitt, G. I. Langston, S. E. Klotz, B. F. Burke, & K. C. Turner.* 61, 105, 18-A5 (1986)

TURNER, K. L. The Spatial Extent of the $z = 2.04$ Absorber in the Spectrum of PKS 0458−020. *F. H. Briggs, A. M. Wolfe, H. S. Liszt, M. M. Davis, & K. L. Turner.* 341, 650, 93-C5 (1989)

TURNER, LEAF. Is Magnetic Energy the Source of Synchrotron Radiation in Jets? *Leaf Turner.* 305, 668, 76-B11 (1986)

TURNER, M. J. L. X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

TURNER, MICHAEL S. Kinematic Tests of Exotic Flat Cosmological Models. *Jane C. Charlton & Michael S. Turner.* 313, 495, 22-C1 (1987)

The Large-Scale Peculiar Velocity Field in Flat Models of the Universe. *Nicola Vittorio & Michael S. Turner.* 316, 475, 57-C1 (1987)

Double Inflation: A Possible Resolution of the Large-Scale Structure Problem. *Michael S. Turner, Jens V. Villumsen, Nicola Vittorio, Joseph Silk, & Roman Juszkiewicz.* 323, 423, 159-C1 (1987)

Primordial Nucleosynthesis with Decaying Particles. I. Entropy-producing Decays. *Robert J. Scherrer & Michael S. Turner.* 331, 19, 106-C1 (1988)

Primordial Nucleosynthesis with Decaying Particles. II. Inert Decays. *Robert J. Scherrer & Michael S. Turner.* 331, 33, 106-D1 (1988)

Superheavy Magnetic Monopoles and Main-Sequence Stars. *Joshua A. Frieman, Katherine Freese, & Michael S. Turner.* 335, 844, 182-A1 (1988)

Is the Great Attractor Really a Great Wall? *Albert Stebbins & Michael S. Turner.* 339, L13, 58-B4 (1989)

TURNSHEK, D. A. The Absorption-Line Spectrum of GC 1556+335: Ejected or Intervening Material? *Simon L. Morris, Ray J. Weymann, Craig B. Foltz, D. A. Turnshek, S. Shectman, C. Price, & T. A. Boroson.* 310, 40, 132-D12 (1986)

TURNSHEK, DAVID A. Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. I. The Lick Survey. *Arthur M. Wolfe, David A. Turnshek, Harding E. Smith, & Ross D. Cohen.* 61, 249, 20-C7 (1986)

More Low-Redshift Broad Absorption Line QSOs. *David A. Turnshek & Carl J. Grillmair.* 310, L1, 138-A4 (1986)

The Complex Absorption Spectrum of the Broad Absorption Line QSO 1303+308. *Craig B. Foltz, Ray J. Weymann, Simon L. Morris, & David A. Turnshek.* 317, 450, 68-G10 (1987)

An Absorption-Line Survey of 32 QSOs at Red Wavelengths: Properties of the Mg II Absorbers. *Kenneth M. Lanzetta, David A. Turnshek, & Arthur M. Wolfe.* 322, 739, 148-A2 (1987)

QSOs with PHL 5200–like Broad Absorption Line Profiles. *David A. Turnshek, Craig B. Foltz, Carl J. Grillmair, & Ray J. Weymann.* 325, 651, 27-F4 (1988)

A Search for Molecular Hydrogen and Dust in the $z = 2.796$ Damped Lyα Absorber toward Q1337+113. *Kenneth M. Lanzetta, Arthur M. Wolfe, & David A. Turnshek.* 344, 277, 136-D13 (1989)

Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. III. Intermediate-Resolution Spectroscopy. *David A. Turnshek, Arthur M. Wolfe, Kenneth M. Lanzetta, Frank H. Briggs, Ross D. Cohen, Craig B. Foltz, Harding E. Smith, & Belinda J. Wilkes.* 344, 567, 141-E7 (1989)

TUROK, NEIL. Cosmic String Wakes. *Albert Stebbins, Shoba Veeraraghavan, Robert Brandenberger, Joseph Silk, & Neil Turok.* 322, 1, 138-A7 (1987)

TUROLLA, R. On Hydrodynamics of Radiatively Driven Winds. *R. Turolla, L. Nobili, & M. Calvani.* 303, 573, 48-F11 (1986)

TUROLLA, ROBERTO. Radiatively Driven Winds in Wolf-Rayet Stars: A Unified Core-Atmosphere Model. *Roberto Turolla, Luciano Nobili, & Massimo Calvani.* 324, 899, 13-D1 (1988)

Henyey Method Revisited: An Application to Problems Involving Critical Points. *Luciano Nobili & Roberto Turolla.* 333, 248, 140-G2 (1988)

On the Role of Viscosity in Spherically Symmetric Transonic Flows. *Roberto Turolla & Luciano Nobili.* 342, 982, 114-D7 (1989)

A Note on the Validity of the Diffusion Approximation in Fast-moving Media. *Luciano Nobili & Roberto Turolla.* 352, L53, 61-D7 (1990)

TURTLE, A. J. Ionized Gas and Radio Emission in the Barred Seyfert Galaxy NGC 5728. *Robert A. Schommer, Nelson Caldwell, A. S. Wilson, J. A. Baldwin, M. M. Phillips, T. B. Williams, & A. J. Turtle.* 324, 154, 2-F9 (1988)

TURVER, J. H. New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

TURVER, K. E. SN 1987A: Limits to 400 GeV Gamma-Ray Emission. *P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, S. M. Rayner, K. J. Orford, K. E. Turver, & D. G. Williams.* 333, L19, 144-B11 (1988)

300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)

New Measurements of the 12.6 Millisecond Pulsar in Cygnus X-3. *K. T. S. Brazier, A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, P. C. Mackie, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, J. H. Turver, & K. E. Turver.* 350, 745, 35-C6 (1990)

300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989))

TUTUKOV, ALEXANDER V. On the Formation and Evolution of a Helium Degenerate Dwarf in a Close Binary. *Icko Iben, Jr., & Alexander V. Tutukov.* 311, 742, 155-G9 (1986)

On the Number-Mass Distribution of Degenerate Dwarfs Produced by the Interacting Binaries and Evidence for Mergers of Low-Mass Helium Dwarfs. *Icko Iben, Jr., & Alexander V. Tutukov.* 311, 753, 156-A6 (1986)

Evolutionary Scenarios for Intermediate-Mass Stars in Close Binaries. *Icko Iben, Jr., & Alexander V. Tutukov.* 313, 727, 24-F8 (1987)

On Interacting Helium Star–White Dwarf Pairs as Supernova Precursors. *Icko Iben, Jr., Ken'ichi Nomoto, Amedeo Tornambè, & Alexander V. Tutukov.* 317, 717, 73-G11 (1987)

Model Stars with Degenerate Dwarf Cores and Helium-burning Shells: A Stationary-burning Approximation. *Icko Iben, Jr., & Alexander V. Tutukov.* 342, 430, 106-A14 (1989)

TWAROG, BRUCE A. A Reanalysis of Galactic Primary Nucleosynthesis. *Bruce A. Twarog & J. Craig Wheeler.* 316, 153, 51-F1 (1987)

Blue Stragglers as the Source of the High-Velocity A Stars. *Joseph C. Shields & Bruce A. Twarog.* 324, 859, 12-G4 (1988)

TYLER, G. LEONARD. Radio Range Measurements of Coronal Electron Densities at 13 and 3.6 Centimeter Wavelengths during the 1985 Solar Conjunction of *Voyager 2*. *John D. Anderson, Timothy P. Krisher, Susan E. Borutzki, Michael J. Connally, Paula M. Eshe, Henry B. Hotz, Scott Kinslow, Emil R. Kursinski, Luann Brown Light, Steven E. Matousek, Katherine I. Moyd, Duane C. Roth, Donald N. Sweetnam, Anthony H. Taylor, G. Leonard Tyler, Donna L. Gresh, & Paul A. Rosen.* 323, L141, 164-E1 (1987)

TYLKA, A. J. The Cosmic-Ray Antiproton Spectrum from Dark Matter Annihilation and Its Astrophysical Implications: A New Look. *F. W. Stecker & A. J. Tylka.* 336, L51, 16-E6 (1989)

Spectra, Fluxes, and Observability of Gamma Rays from Dark Matter Annihilation in the Galaxy. *F. W. Stecker & A. J. Tylka.* 343, 169, 120-C11 (1989)

TYSON, J. A. A Deep CCD Survey of 12 High-Latitude Fields. *J. A. Tyson & P. Seitzer.* 335, 552, 178-E4 (1988)

Optical Characteristics of Galactic 100 Micron Cirrus. *P. Guhathakurta & J. A. Tyson.* 346, 773, 177-A1 (1989)

Detection of Systematic Gravitational Lens Galaxy Image Alignments: Mapping Dark Matter in Galaxy Clusters. *J. A. Tyson, F. Valdes, & R. A. Wenk.* 349, L1, 19-A7 (1990)

A Redshift Limit for the Faint Blue Galaxy Population from Deep *U* Band Imaging. *P. Guhathakurta, J. A. Tyson, & S. R. Majewski.* 357, L9, 115-B11 (1990)

TYSON, J. ANTHONY. 1343.4+2640: A Close Quasar Pair. *David Crampton, A. P. Cowley, P. Hickson, E. Kindl, R. Mark Wagner, J. Anthony Tyson, & Craig Gullixson.* 330, 184, 92-A9 (1988)

TYSON, NEIL D. Bursting Dwarf Galaxies: Implications for Luminosity Function, Space Density, and Cosmological Mass Density. *Neil D. Tyson & John M. Scalo.* 329, 618, 83-D7 (1988)

On the Possibility of Gas-rich Dwarf Galaxies in the Lyman-Alpha Forest. *Neil D. Tyson.* 329, L57, 89-B1 (1988)

TYTLER, D. The Geminga X-Ray Counterpart and a Blue Optical Identification. *J. P. Halpern & D. Tytler.* 330, 201, 92-C1 (1988)

TYTLER, DAVID. High-Resolution Spectra of 24 Low-Redshift QSOs: The Properties of Mg II Absorption Systems. *David Tytler, A. Boksenberg, Wallace L. W. Sargent, Peter Young, & Daniel Kunth.* 64, 667, 27-B8 (1987)

The Distribution of QSO Absorption System Column Densities: Evidence for a Single Population. *David Tytler.* 321, 49, 122-F6 (1987)

The Redshift Distribution of QSO Lyman-Alpha Absorption Systems. *David Tytler.* 321, 69, 122-G12 (1987)

UBERTINI, P. Hard X-Ray Spectrum of Supernova 1987A on Day 407. *P. Ubertini, A. Bazzano, R. Sood, R. Staubert, T. J. Sumner, & G. Frye.* 337, L19, 25-B11 (1989)

Nonthermal X-Ray Emission from 3C 273: The Core of a Knotty Problem? *A. J. Dean, A. Bazzano, A. J. Court, N. A. Dipper, R. A. Lewis, P. Maggioli, F. Perotti, M. Quadrini, J. B. Stephen, & P. Ubertini.* 349, 41, 14-E1 (1990)

Hard X-Ray Observation of NGC 4151 with the MIFRASO Telescope. *F. Perotti, R. Buratti, P. Maggioli, E. Quadrini, A. Bazzano, P. Ubertini, L. Bassani, J. B. Stephen, A. J. Court, A. J. Dean, N. A. Dipper, & R. A. Lewis.* 356, 467, 106-B3 (1990)

Hard X-Rays from Coma Cluster Region. *A. Bazzano, R. Fusco-Femiano, P. Ubertini, F. Perotti, E. Quadrini, A. J. Court, A. J. Dean, N. A. Dipper, R. Lewis, & J. B. Stephen.* 362, L51, 181-C1 (1990)

UCHIDA, BARBARA A. Lyα Emission from Disk Absorption Systems at High Redshift: Star Formation in Young Galaxy Disks. *Harding E. Smith, Ross D. Cohen, Joseph E. Burns, David J. Moore, & Barbara A. Uchida.* 347, 87, 183-B11 (1989)

UCHIDA, KEVEN. A Study of AFGL 5376: An Unusual Extended Infrared Source near the Galactic Center. *Keven Uchida, Mark Morris, & E. Serabyn.* 351, 443, 45-E9 (1990)

UCHIDA, Y. Nonlinear Parker Instability of Isolated Magnetic Flux in a Plasma. *K. Shibata, T. Tajima, R. Matsumoto, T. Horiuchi, T. Hanawa, R. Rosner, & Y. Uchida.* 338, 471, 38-F6 (1989)

UCHINO, K. Diffuse Gamma Rays with Energies Greater than 1×10^{14} eV Observed in the Southern Hemisphere. *K. Suga, Y. Toyoda, K. Kamata, K. Murakami, M. Lapointe, J. Gaebler, I. Escobar, O. Saavedra, V. Domingo, S. Shibata, H. Akiyama, M. Takano, & K. Uchino.* 326, 1036, 45-A5 (1988)

Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

ÜBERALL, H. Homestake Mine Experiments and Weakly Interacting Particles in the Universe. *E. L. Fireman, B. T. Cleveland, & H. Überall.* 326, 645, 40-F8 (1988)

UHR, R. C. Searches for Narrow-Angle Anisotropies in the Primary Energy Range 0.1–10 TeV: Erratum. *O. C. Allkofer, W. D. Dau, H. Jokisch, G. Klemke, R. C. Uhr, G. Bella, & Y. Oren.* 305, 954, 79-D10 (1986) (Orig. paper in 291, 468, 40-A2 (1985))

UKITA, N. High-Resolution Observations of CO from the Bipolar Nebula CRL 2688. *R. Kawabe, M. Ishiguro, T. Kasuga, K.-I. Morita, N. Ukita, H. Kobayashi, S. Okumura, E. Fomalont, & N. Kaifu.* 314, 322, 31-F1 (1987)

Small-Scale Structure and Chemical Differential in the Central Regions of the Sagittarius B2 Molecular Cloud. *Paul F. Goldsmith, Ronald L. Snell, T. Hasegawa, & N. Ukita.* 314, 525, 35-C6 (1987)

Water Maser Emission toward V788 Cygni, a Carbon Star. *Y. Nakada, H. Izumiura, T. Onaka, O. Hashimoto, N. Ukita, S. Deguchi, & T. Tanabé.* 323, L77, 158-F6 (1987)

Position Confirmation of Water Maser Emission from V778 Cygni, a Carbon Star. *S. Deguchi, R. Kawabe, N. Ukita, Y. Nakada, T. Onaka, H. Izumiura, & Sadanori Okamura.* 325, 795, 29-C5 (1988)

Discovery of a Reflection Dust Envelope around IRC +10216. *M. Tamura, T. Hasegawa, N. Ukita, I. Gatley, I. S. McLean, M. G. Burton, J. T. Rayner, & M. J. McCaughrean.* 326, L17, 38-B9 (1988)

V Hydrae: A Carbon Star in Transformation to a Bipolar Nebula. *T. Tsuji, W. Unno, N. Kaifu, H. Izumiura, N. Ukita, S. Cho, & K. Koyama.* 327, L23, 53-C1 (1988)

Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews, Y. Minh, S. Saito, N. Ukita, & S. Yamamoto.* 342, 871, 113-B5 (1989)

Molecular Envelope of the Planetary Nebula NGC 7027. *S. Deguchi, H. Izumiura, N. Kaifu, X. Mao, Nguyen-Q-Rieu, & N. Ukita.* 351, 522, 46-E9 (1990)

UKITA, NOBUHARU. Detection of $H^{13}CN$ Maser Emission from the Ground State toward Y Canum Venaticorum. *Hideyuki Izumiura, Nobuharu Ukita, Ryohei Kawabe, Norio Kaifu, Takashi Tsuji, Wasaburo Unno, & Kouichi Koyama.* 323, L81, 158-F10 (1987)

A Sensitive Line Search in Circumstellar Envelopes. *Nguyen-Quang-Rieu, S. Deguchi, H. Izumiura, N. Kaifu, M. Ohishi, H. Suzuki, & Nobuharu Ukita.* 330, 374, 94-D1 (1988)

The Inner, Dense Part of the Protostellar Disk: A CS $J = 7$–6 Observation around NGC 2071 IRS. *Takuya Yamashita, Saeko S. Hayashi, Norio Kaifu, Osamu Kameya, Nobuharu Ukita, & Tetsuo Hasegawa.* 347, L85, 199-E1 (1989)

ULICH, B. L. The Bipolar Molecular Outflow of V645 Cygni. *A. Schulz, J. H. Black, C. J. Lada, B. L. Ulich, R. N. Martin, R. L. Snell, & N. J. Erickson.* 341, 288, 87-D9 (1989)

ULICH, BOBBY L. A Search for the Sunyaev-Zel'dovich Effect at $\lambda = 3$ Millimeters. *Simon J. E. Radford, Paul E. Boynton, Bobby L. Ulich, R. Bruce Partridge, Robert A. Schommer, Antony A. Stark, Robert W. Wilson, & Stephen S. Murray.* 300, 159, 2-F13 (1986)

Submillimeter Observations of CS in M17. *Ronald L. Snell, Neal R. Erickson, Paul F. Goldsmith, Bobby L. Ulich, Charles J. Lada, Robert N. Martin, & Andreas Schulz.* 304, 780, 64-F4 (1986)

ULMER, M. P. *HEAO 2* X-Ray Observations of Clusters of Galaxies. *M. P. Ulmer, M. P. Kowalski, & R. G. Cruddace.* 303, 162, 42-F11 (1986)

Spartan 1 X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer

Regions of the Cluster. *M. P. Ulmer, R. G. Cruddace, E. E. Fenimore, G. G. Fritz, & W. A. Snyder.* 319, 118, 94-C11 (1987)
Spartan 1 X-Ray Observations of the Perseus Cluster: Comparison of the Iron Abundances and Temperatures in the Inner and Outer Regions of the Cluster: Erratum. *M. P. Ulmer, R. G. Cruddace, E. E. Fenimore, G. G. Fritz, & W. A. Snyder.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 118, 94-C11 (1987))
X-Ray Observations of the Galactic Center by *Spartan 1. N. Kawai, E. E. Fenimore, J. Middleditch, R. G. Cruddace, G. G. Fritz, W. A. Snyder, & M. P. Ulmer.* 330, 130, 91-D11 (1988)
Do the Major Axes of Rich Clusters of Galaxies Point toward Their Neighbors? *M. P. Ulmer, S. L. W. McMillan, & M. P. Kowalski.* 338, 711, 42-F1 (1989)
X-Ray Morphologies of Abell Clusters. *S. L. W. McMillan, M. P. Kowalski, & M. P. Ulmer.* 70, 723, 29-E1 (1989)
Search for Cold Gas in Clusters with and without Cooling Flows. *D. A. Grabelsky & M. P. Ulmer.* 355, 401, 93-D4 (1990)
Spartan 1 X-Ray Observations of the Perseus Cluster. II. The Distribution of Flux and Hardness Ratio Out to a Radius of 50 Arcminutes. *W. A. Snyder, M. P. Kowalski, R. G. Cruddace, G. G. Fritz, J. Middleditch, E. E. Fenimore, M. P. Ulmer, & S. R. Majewski.* 365, 460, 213-F8 (1990)
ULMSCHNEIDER, P. A Computational Code for Two-dimensional Unsteady Magnetohydrodynamics by the Method of Characteristics. *Y. Q. Lou, R. Rosner, & P. Ulmschneider.* 315, 349, 43-F6 (1987)
On the Generation of Flux Tube Waves in Stellar Convection Zones. I. Longitudinal Tube Waves Driven by External Turbulence. *Z. E. Musielak, R. Rosner, & P. Ulmschneider.* 337, 470, 23-D1 (1989)
ULRICH, M. H. The Quasar Pair Tololo 1037–27 and 1038–27: Evidence for Correlated Absorption Megaparsec Scales. *P. Jakobsen, M. A. C. Perryman, M. H. Ulrich, F. Macchetto, & S. di Serego Alighieri.* 303, L27, 53-B6 (1986)
New Results on the X-Ray Emission and Its Correlation with the Ultraviolet in NGC 4151. *G. C. Perola, L. Piro, A. Altamore, F. Fiore, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 306, 508, 90-A9 (1986)
Simultaneous *EXOSAT* and *IUE* Observations of Fairall 9: Short and Long-Term Variability. *M. Morini, L. Scarsi, D. Molteni, M. Salvati, G. C. Perola, L. Piro, G. Simari, A. Boksenberg, M. V. Penston, M. A. J. Snijders, G. E. Bromage, J. Clavel, A. Elvius, & M. H. Ulrich.* 307, 486, 102-A10 (1986)
A Detailed Study of the C IV λ1550 Line Profile and Adjacent Spectral Features in NGC 4151 from 1978 to 1983. *J. Clavel, A. Altamore, A. Boksenberg, G. E. Bromage, A. Elvius, D. Pelat, M. V. Penston, G. C. Perola, M. A. J. Snijders, & M. H. Ulrich.* 321, 251, 125-A5 (1987)
ULRICH, R. K. Radial and Nonradial Pulsations of Polytropes: High-Precision Eigenvalues and the Approach of *p*-Modes to Asymptotic Behavior. *D. J. Mullan & R. K. Ulrich.* 331, 1013, 120-B6 (1988)
ULRICH, ROGER K. Determination of Stellar Ages from Asteroseismology. *Roger K. Ulrich.* 306, L37, 86-C9 (1986)
Can Binary Stars Test Solar Models? *Daniel M. Popper & Roger K. Ulrich.* 307, L61, 107-C6 (1986)
On the Constancy of Intermediate-Degree *p*-Mode Frequencies during the Declining Phase of Solar Cycle 21. *Edward J. Rhodes, Jr., Martin F. Woodard, Alessandro Cacciani, Steven Tomczyk, Sylvain G. Korzennik, & Roger K. Ulrich.* 326, 479, 37-E4 (1988)
Seismic Analysis of the Solar Interior. I. Can Opacity Changes Improve the Theoretical Frequencies? *Sylvain G. Korzennik & Roger K. Ulrich.* 339, 1144, 65-F7 (1989)
Rotation of Doppler Features in the Solar Photosphere. *Herschel B. Snodgrass & Roger K. Ulrich.* 351, 309, 42-A1 (1990)
Depth and Latitude Dependence of the Solar Internal Angular Velocity. *Edward J. Rhodes, Jr., Alessandro Cacciani, Sylvain Korzennik, Steven Tomczyk, Roger K. Ulrich, & Martin F. Woodard.* 351, 687, 48-F1 (1990)
ULVESTAD, J. S. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)
VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)
15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)
ULVESTAD, JAMES S. Radio Properties of Type 1.8 and 1.9 Seyfert Galaxies. *James S. Ulvestad.* 310, 136, 133-E1 (1986)
A Radiative Bow Shock Wave (?) Driven by Nuclear Ejecta in a Seyfert Galaxy. *Andrew S. Wilson & James S. Ulvestad.* 319, 105, 94-B11 (1987)
Radio Properties of the Highly Polarized, Quiescent Quasar OI 287. *James S. Ulvestad & Robert R. J. Antonucci.* 328, 569, 69-D1 (1988)
A Large Family of Compact Radio Sources in the Starburst Nucleus of NGC 253. *Robert R. J. Antonucci & James S. Ulvestad.* 330, L97, 104-F11 (1988)
Radio Structures of Seyfert Galaxies. VII. Extension of a Distance-limited Sample. *James S. Ulvestad & Andrew S. Wilson.* 343, 659, 127-D2 (1989)
UM, I. K. Inversion of the Zodiacal Infrared Brightness Integral. *S. S. Hong & I. K. Um.* 320, 928, 120-A5 (1987)
UMEMOTO, TOMOFUMI. A Newly Discovered Molecular Cloud in Cepheus OB4. *Ji Yang, Yasuo Fukui, Tomofumi Umemoto, Hideo Ogawa, & Hua Chen.* 362, 538, 177-D5 (1990)
UMEMURA, M. Upper Limit on the Cosmological Baryon Density from the Cosmic Background Radiation Anisotropies in the Cold Dark Matter–dominated Universe. *M. Fukugita & M. Umemura.* 339, L1, 58-A6 (1989)
Constraints on Cold Dark Matter–dominated Universes from Cosmic Background Radiation Anisotropies. *M. Fukugita, N. Sugiyama, & M. Umemura.* 358, 28, 122-D1 (1990)
UMEMURA, MASAYUKI. Formation of Stellar Shells and X-Ray Coronae around Elliptical Galaxies. *Masayuki Umemura & Satoru Ikeuchi.* 319, 601, 101-E5 (1987)
UNDERHILL, A. B. The Statistical Equilibrium of Hydrogen and Helium in a Radiation Field, with an Application to Interpreting Wolf-Rayet Spectra. *A. K. Bhatia & A. B. Underhill.* 60, 323, 4-F8 (1986)
The Problem of V444 Cygni. *A. B. Underhill & R. P. Fahey.* 313, 358, 18-G9 (1987)
Carbon and Nitrogen Lines in the Spectra of Wolf-Rayet Stars. *A. K. Bhatia & A. B. Underhill.* 67, 187, 13-E1 (1988)
About the Eclipsing Wolf-Rayet Binary HD 214419, CQ Cephei. *A. B. Underhill, K. K. Gilroy, & G. M. Hill.* 351, 651, 48-C1 (1990)
A Possible Meaning of the Spectrum of HD 191765, WN6. *A. B. Underhill, K. K. Gilroy, G. M. Hill, & N. Dinshaw.* 351, 666, 48-D3 (1990)
Notes on the Radial Velocities of 14 O Stars and the Emission Lines in Their Spectra. *A. B. Underhill & K. K. Gilroy.* 364, 626, 204-A3 (1990)
UNDERHILL, ANNE B. Comments on Using Absolute Spectrophotometry of Wolf-Rayet Stars. *Anne B. Underhill.* 300, 374, 5-B8 (1986)
Numerical Experiments on the Broadening of Emission Lines Formed in a Disk. *Anne B. Underhill & Amanda F. L. Nemec.* 345, 1008, 163-B1 (1989)
The Oxygen Emission Lines in Wolf-Rayet Spectra. *A. K. Bhatia & Anne B. Underhill.* 358, 240, 125-B1 (1990)
UNGER, S. W. Radio Lobes and [O III] Profile Substructure in Seyfert Galaxies. *M. Whittle, A. Pedlar, E. J. A. Meurs, S. W. Unger, D. J. Axon, & M. J. Ward.* 326, 125, 33-D8 (1988)

UNGERECHTS, H. A CO Survey of the Dark Nebulae in Perseus, Taurus, and Auriga. *H. Ungerechts & P. Thaddeus.* 63, 645, 10-D6 (1987)

A Composite CO Survey of the Entire Milky Way. *T. M. Dame, H. Ungerechts, R. S. Cohen, E. J. de Geus, I. A. Grenier, J. May, D. C. Murphy, L.-Å. Nyman, & P. Thaddeus.* 322, 706, 147-D13 (1987)

UNNO, W. V Hydrae: A Carbon Star in Transformation to a Bipolar Nebula. *T. Tsuji, W. Unno, N. Kaifu, H. Izumiura, N. Ukita, S. Cho, & K. Koyama.* 327, L23, 53-C1 (1988)

UNNO, WASABURO. Detection of $H^{13}CN$ Maser Emission from the Ground State toward Y Canum Venaticorum. *Hideyuki Izumiura, Nobuharu Ukita, Ryohei Kawabe, Norio Kaifu, Takashi Tsuji, Wasaburo Unno, & Kouichi Koyama.* 323, L81, 158-F10 (1987)

The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)

UNWIN, S. C. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

The Radio Morphology of 3C 120 on Scales from 0.5 Parsecs to 400 Kiloparsecs. *R. C. Walker, J. M. Benson, & S. C. Unwin.* 316, 546, 58-A5 (1987)

VLBI and MERLIN Observations of 3C 120 at 1.7 GHz: Superluminal Motions beyond 0".05. *J. M. Benson, R. C. Walker, S. C. Unwin, T. W. B. Muxlow, P. N. Wilkinson, R. S. Booth, G. Pilbratt, & R. S. Simon.* 334, 560, 162-D9 (1988)

Superluminal Motion in the Quasar 3C 279. *S. C. Unwin, M. H. Cohen, J. A. Biretta, M. W. Hodges, & J. A. Zensus.* 340, 117, 68-E6 (1989)

UNWIN, STEPHEN C. Detection of Superluminal Motion in the Core-dominated Quasar 0106+013. *Ann E. Wehrle, Marshall H. Cohen, & Stephen C. Unwin.* 351, L1, 43-A7 (1990)

UOMOTO, A. The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault.* 317, 355, 67-F14 (1987)

UOMOTO, ALAN. The Late-Time Spectrum of the Type II Supernova 1980k. *Alan Uomoto & Robert P. Kirshner.* 308, 685, 116-D11 (1986)

What Stars Become Peculiar Type I Supernovae? *Alan Uomoto.* 310, L35, 138-C9 (1986)

The Geometry, Composition, and Mass of the Crab Nebula. *Gordon M. MacAlpine, Stacy S. McGaugh, Joseph M. Mazzarella, & Alan Uomoto.* 342, 364, 105-C10 (1989)

UOMOTO, ALAN K. Portrait of a Novel Nova: V1500 Cygni. *Catherine M. Lance, Marshall L. McCall, & Alan K. Uomoto.* 66, 151, 3-F1 (1988)

URNOV, A. M. Doppler-shifted Emission from Helium Ions Accelerated in Solar Flares. *Th. Peter, E. N. Ragozin, A. M. Urnov, D. B. Uskov, & D. M. Rust.* 351, 317, 42-A10 (1990)

URPO, SEPPO. Active Extragalactic Sources: Nearly Simultaneous Observations from 20 Centimeters to 1400 Å. *Robert Landau, Bill Golisch, Terry J. Jones, T. W. Jones, Jeffrey Pedelty, Lawrence Rudnick, Michael L. Sitko, Jeff Kenney, Tom Roellig, Erkki Salonen, Seppo Urpo, Gary Schmidt, Gerry Neugebauer, Keith Matthews, J. H. Elias, C. Impey, P. Clegg, & S. Harris.* 308, 78, 108-G11 (1986)

URRY, C. M. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

X-Ray Spectroscopy of Five BL Lacertae Objects. *C. M. Urry, R. F. Mushotzky, & S. S. Holt.* 305, 369, 71-C1 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

Eight Years of Ultraviolet Spectra of the Variable BL Lacertae Object PKS 2155–305. *C. M. Urry, Y. Kondo, K. R. H. Hackney, & R. L. Hackney.* 330, 791, 101-C3 (1988)

An Evolving Relativistic Jet Model for the BL Lacertae Object Markarian 421. *S. L. Mufson, D. J. Hutter, Y. Kondo, C. M. Urry, & W. Z. Wiśniewski.* 354, 116, 75-D9 (1990)

Fanaroff-Riley I Galaxies as the Parent Population of BL Lacertae Objects. I. X-Ray Constraints. *P. Padovani & C. M. Urry.* 356, 75, 100-A5 (1990)

Soft X-Ray Properties of Seyfert Galaxies. I. Spectra. *J. S. Kruper, C. M. Urry, & C. R. Canizares.* 74, 347, 35-D1 (1990)

USHER, PETER D. Faint Blue Objects at High Galactic Latitude. V. Palomar Schmidt Field Centered on Selected Area 71. *Peter D. Usher, Kenneth J. Mitchell, & Archibald Warnock III.* 66, 1, 1-A6 (1988)

Optical Variability of the Medium-bright Quasar Sample. *Ke-Liang Huang, Kenneth J. Mitchell, & Peter D. Usher.* 362, 33, 169-D11 (1990)

Faint Blue Objects at High Galactic Latitude. VI. Palomar Schmidt Field Centered on Selected Area 82. *Peter D. Usher & Kenneth J. Mitchell.* 74, 885, 43-F11 (1990)

USHIMARU, N. Discovery of a Peculiar X-Ray Pulsar GS 1843+00. *K. Koyama, M. Kawada, Y. Takeuchi, Y. Tawara, N. Ushimaru, T. Dotani, & M. Takizawa.* 356, L47, 110-B11 (1990)

USHIMARU, NAOKO. Hard X-Ray Emission from the Carina Nebula. *Katsuji Koyama, Ikuko Asaoka, Naoko Ushimaru, Shigeo Yamauchi, & Robin H. D. Corbet.* 362, 215, 171-G3 (1990)

USKOV, D. B. Doppler-shifted Emission from Helium Ions Accelerated in Solar Flares. *Th. Peter, E. N. Ragozin, A. M. Urnov, D. B. Uskov, & D. M. Rust.* 351, 317, 42-A10 (1990)

USON, JUAN M. The Smoothness of the 2.2 Micron Background: Constraints on Models of Primeval Galaxies. *Stephen P. Boughn, Peter R. Saulson, & Juan M. Uson.* 301, 17, 14-B10 (1986)

USOV, V. V. On Two-Stream Instability in Pulsar Magnetospheres. *V. V. Usov.* 320, 333, 111-F6 (1987)

VACANTI, G. Search for Linear Polarization in Gamma-Ray Sources: Possible Evidence for the Vela Pulsar. *P. A. Caraveo, G. F. Bignami, I. Mitrofanov, & G. Vacanti.* 327, 203, 49-B11 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

VACCA, WILLIAM D. Color Excesses, Intrinsic Colors, and Absolute Magnitudes of Galactic and Large Magellanic Cloud Wolf-Rayet Stars. *William D. Vacca & Ana V. Torres-Dodgen.* 73, 685, 27-F1 (1990)

VACHASPATI, TANMAY. The Formation of Pregalactic Objects from White-Noise Density Perturbations. *Robert J. Scherrer & Tanmay Vachaspati.* 361, 338, 162-D1 (1990)

VADER, J. PATRICIA. Metal-Enhanced Galactic Winds. I. *J. Patricia Vader.* 305, 669, 76-B12 (1986)

Multivariate Analysis of Elliptical Galaxies in Different Environments. *J. Patricia Vader.* 306, 390, 88-F9 (1986)

Metal-enhanced Galactic Winds. II. Radiative Cooling and Pressure Effects. *J. Patricia Vader.* 317, 128, 65-C14 (1987)

IRAS 20460+1925: An Extreme Seyfert 2 and One of the Most Luminous Galaxies Known. *Jay A. Frogel, F. C. Gillett, D. M. Terndrup, & J. Patricia Vader.* 343, 672, 127-E1 (1989)

VAHIA, M. N. *EXOSAT* Observations of the Suspected Flare Star BD +48°1958A. *A. R. Rao, K. P. Singh, & M. N. Vahia.* 365, 332, 210-E1 (1990)

EXOSAT Observations of the Blazar PKS 1510–089. *K. P. Singh, A. R. Rao, & M. N. Vahia.* 365, 455, 213-F1 (1990)

VAIANA, G. S. Variability Analysis in Low Count Rate Sources. *A. Collura, A. Maggio, S. Sciortino, S. Serio, G. S. Vaiana, & R. Rosner.* 315, 340, 43-E11 (1987)
Einstein Observatory Survey of X-Ray Emission from Solar-Type Stars: The Late F and G Dwarf Stars. *A. Maggio, S. Sciortino, G. S. Vaiana, P. Majer, J. Bookbinder, L. Golub, F. R. Harnden, Jr., & R. Rosner.* 315, 687, 48-B8 (1987)
The Stellar Composition of X-Ray Surveys from the *Einstein Observatory*. *F. Favata, R. Rosner, S. Sciortino, & G. S. Vaiana.* 324, 1010, 14-E13 (1988)
The *Einstein Observatory* Survey of Stars in the Hyades Cluster Region. *G. Micela, S. Sciortino, G. S. Vaiana, J. H. M. M. Schmitt, R. A. Stern, F. R. Harnden, Jr., & R. Rosner.* 325, 798, 29-C8 (1988)
Variability of X-Ray Emission from OB Stars. *A. Collura, S. Sciortino, S. Serio, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 338, 296, 36-E7 (1989)
Einstein Observatory Magnitude-limited X-Ray Survey of Late-Type Giant and Supergiant Stars. *A. Maggio, G. S. Vaiana, B. M. Haisch, R. A. Stern, J. Bookbinder, F. R. Harnden, Jr., & R. Rosner.* 348, 253, 4-B3 (1990)
X-Ray Studies of Coeval Star Samples. II. The Pleiades Cluster as Observed with the *Einstein Observatory*. *G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., R. Rosner, & J. H. M. M. Schmitt.* 348, 557, 9-E6 (1990)
X-Ray Studies of Coeval Star Samples. III. X-Ray Emission in the Ursa Major Stream. *J. H. M. M. Schmitt, G. Micela, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 351, 492, 46-B11 (1990)
IUE and *Einstein* Survey of Late-Type Giant and Supergiant Stars and the Dividing Line. *Bernhard M. Haisch, Jay A. Bookbinder, A. Maggio, G. S. Vaiana, & Jeffrey O. Bennett.* 361, 570, 165-B8 (1990)
Relationship between Optical and X-Ray Properties of O-Type Stars Surveyed with the *Einstein Observatory*. *S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., M. Ramella, C. Morossi, R. Rosner, & J. H. M. M. Schmitt.* 361, 621, 165-F11 (1990)
Einstein Observatory Coronal Temperatures of Late-Type Stars. *J. H. M. M. Schmitt, A. Collura, S. Sciortino, G. S. Vaiana, F. R. Harnden, Jr., & R. Rosner.* 365, 704, 217-A9 (1990)
VAINSHTEIN, S. I. Magnetic Nonequilibrium and Current Sheet Formation. *S. I. Vainshtein & E. N. Parker.* 304, 821, 65-B9 (1986)
VALDES, F. Detection of Systematic Gravitational Lens Galaxy Image Alignments: Mapping Dark Matter in Galaxy Clusters. *J. A. Tyson, F. Valdes, & R. A. Wenk.* 349, L1, 19-A7 (1990)
VALDES, FRANCISCO. The Spatial and Mass Distributions of Molecular Clouds and Spiral Structures. *John Kwan & Francisco Valdes.* 315, 92, 41-A2 (1987)
High-Resolution Imaging from Mauna Kea: Globular Clusters in the Coma Cluster Galaxy NGC 4874. *Laird A. Thompson & Francisco Valdes.* 315, L35, 45-C14 (1987)
VALENTI, JEFF A. Physical Realism in the Analysis of Stellar Magnetic Fields. III. Flux Tubes and Multicomponent Atmospheres. *Gibor Basri, Geoffrey W. Marcy, & Jeff A. Valenti.* 360, 650, 154-C1 (1990)
VALENTIJN, E. Lunar Occultation of the Galactic Center at 2.2 Microns. *D. J. Adams, E. E. Becklin, R. F. Jameson, A. J. Longmore, Aa. Sandqvist, & E. Valentijn.* 327, L65, 61-C11 (1988)
VALERO, G. J. Laboratory Studies of the Infrared Spectral Properties of CO in Astrophysical Ices. *S. A. Sandford, L. J. Allamandola, A. G. G. M. Tielens, & G. J. Valero.* 329, 498, 80-E10 (1988)
VALLE, K. The Extragalactic Background Light and a Definitive Resolution of Olbers's Paradox. *Paul S. Wesson, K. Valle, & R. Stabell.* 317, 601, 72-F5 (1987)
VALLÉE, J. P. Sulfur, Carbon, Helium, and Hydrogen 125α Observations and Physical Analysis of the W48 Neutral Interface. *J. P. Vallée.* 317, 693, 73-E13 (1987)
Linear Polarization Observations in Selected Celestial Zones: The Central Region of Our Galaxy. *R. C. Bignell, M. Simard-Normandin, & J. P. Vallée.* 67, 279, 16-E1 (1988)
Excess Rotation Measure and Large-Scale Magnetic Field in the Scutum Spiral Arm of Our Galaxy. *J. P. Vallée, M. Simard-Normandin, & R. C. Bignell.* 331, 321, 109-F9 (1988)
Sulfurized Molecular Cloud Edges. *J. P. Vallée.* 341, 238, 86-G11 (1989)
CO Spectroscopy of the W48 Molecular Cloud near 1.3 Millimeters. *J. P. Vallée & J. M. MacLeod.* 358, 183, 124-D1 (1990)
Detecting the Largest Magnets: The Universe and the Clusters of Galaxies. *J. P. Vallée.* 360, 1, 145-B1 (1990)
Triggering the Bisymmetric (m = 1) Magnetic Fields in Spiral Galaxies. *J. P. Vallée.* 361, 419, 163-C9 (1990)
VALLERGA, J. V. High-Resolution Sodium Absorption-Line Observations of the Local Interstellar Medium. *B. Y. Welsh, P. W. Vedder, & J. V. Vallerga.* 358, 473, 129-D11 (1990)
VALLURI, MONICA. Collisional Removal of H I from the Inner Disks of Virgo Cluster Galaxies. *Monica Valluri & Chanda J. Jog.* 357, 367, 117-B7 (1990)
VALTAOJA, E. Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)
VALTAOJA, L. Binary Pairs of Supermassive Black Holes: Formation in Merging Galaxies. *L. Valtaoja, M. J. Valtonen, & G. G. Byrd.* 343, 47, 118-E13 (1989)
VALTONEN, M. J. OJ 287: Binary Pair of Supermassive Black Holes. *A. Sillanpää, S. Haarala, M. J. Valtonen, B. Sundelius, & G. G. Byrd.* 325, 628, 27-D6 (1988)
Binary Pairs of Supermassive Black Holes: Formation in Merging Galaxies. *L. Valtaoja, M. J. Valtonen, & G. G. Byrd.* 343, 47, 118-E13 (1989)
The Slingshot Ejections in Merging Galaxies. *S. Mikkola & M. J. Valtonen.* 348, 412, 7-F4 (1990)
VALTONEN, MAURI. Tidal Generation of Active Spirals and S0 Galaxies by Rich Clusters. *Gene Byrd & Mauri Valtonen.* 350, 89, 26-B1 (1990)
VALTONEN, MAURI J. Redshift Asymmetries in Systems of Galaxies and the Missing Mass. *Mauri J. Valtonen & Gene G. Byrd.* 303, 523, 48-C1 (1986)
VALVI, F. N. Third-Order Perturbation Theory: Structure Parameters of Uniformly Rotating Polytropic Stars and Improvement and Accuracy of the Results. *V. S. Geroyannis & F. N. Valvi.* 62, 363, 36-B11 (1986)
Numerical Implementation of a Perturbation Theory Up to Third Order for Rotating Polytropic Stars: Structure Parameters under Differential Rotation. *V. S. Geroyannis & F. N. Valvi.* 312, 219, 3-C12 (1987)
Chandrasekhar's Perturbation Method–oriented Theories up to Third Order: Structure Parameters for Rotating Polytropic Stars. *V. S. Geroyannis & F. N. Valvi.* 66, 139, 3-E1 (1988)
VAN ALTENA, WILLIAM F. The Case of α Centauri: Mass, Age, and p-Mode Oscillation Spectrum. *Pierre Demarque, D. B. Guenther, & William F. van Altena.* 300, 773, 11-F3 (1986)
VAN BALLEGOOIJEN, A. A. On the Surface Response of Solar Giant Cells. *A. A. van Ballegooijen.* 304, 828, 65-C2 (1986)
Cascade of Magnetic Energy as a Mechanism of Coronal Heating. *A. A. van Ballegooijen.* 311, 1001, 158-G2 (1986)
The Possible Role of Meridional Flows in Suppressing Magnetic Buoyancy. *A. A. van Ballegooijen & A. R. Choudhuri.* 333, 965, 151-A1 (1988)
Formation and Eruption of Solar Prominences. *A. A. van Ballegooijen & P. C. H. Martens.* 343, 971, 131-B7 (1989)
Magnetic Fields in Quiescent Prominences. *A. A. van Ballegooijen & P. C. H. Martens.* 361, 283, 160-D7 (1990)
VAN BERG, R. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)
VAN BLERKOM, D. J. ^{12}CO Emission from the Envelopes of Cool Stars in the Solar Neighborhood. *M. Margulis, D. J. Van Blerkom, R. L. Snell, & S. G. Kleinmann.* 361, 673, 166-D10 (1990)
VAN BREUGEL, W. J. M. Galaxy Collisions and Mergers: The Genesis of Very Powerful Radio Sources? *T. M. Heckman, Eric P. Smith,*

Stefi A. Baum, W. J. M. van Breugel, G. K. Miley, G. D. Illingworth, G. D. Bothun, & B. Balick. 311, 526, 153-D2 (1986)
4C 40.36: A Radio Galaxy at a Redshift of 2.3. *K. C. Chambers, G. K. Miley, & W. J. M. van Breugel.* 327, L47, 61-B7 (1988)
Dynamical, Physical, and Chemical Properties of Emission-Line Nebulae in Cooling Flows. *Timothy M. Heckman, Stefi A. Baum, W. J. M. van Breugel, & Patrick McCarthy.* 338, 48, 33-F1 (1989)
Depolarization Silhouettes and the Filamentary Structure in the Radio Source Fornax A. *E. B. Fomalont, K. A. Ebnetter, W. J. M. van Breugel, & R. D. Ekers.* 346, L17, 173-B11 (1989)
4C 41.17: A Radio Galaxy at a Redshift of 3.8. *K. C. Chambers, G. K. Miley, & W. J. M. van Breugel.* 363, 21, 182-D1 (1990)
VAN BREUGEL, WIL. VLBI and VLA Observations of the BL Lacertae–Type Object Markarian 501: Evidence for Grossly Misalingned Small-Scale and Large-Scale Radio Structure. *Wil van Breugel & Richard Schilizzi.* 301, 834, 24-F11 (1986)
Extended Lyman-α Emission in 3C 326.1: A 100 Kiloparsec Cloud of Ionized Gas at a Redshift of 1.82. *Patrick J. McCarthy, Hyron Spinrad, S. Djorgovski, Michael A. Strauss, Wil van Breugel, & James Liebert.* 319, L39, 107-B2 (1987)
A Correlation between the Radio and Optical Morphologies of Distant 3 CR Radio Galaxies. *Patrick J. McCarthy, Wil van Breugel, Hyron Spinrad, & S. Djorgovski.* 321, L29, 129-D3 (1987)
Extended Optical Line Emitting Gas in Radio Galaxies: Broad-Band Optical, Narrow-Band Optical, and Radio Imaging of a Representative Sample. *Stefi A. Baum, Timothy Heckman, Alan Bridle, Wil van Breugel, & George Miley.* 68, 643, 33-B1 (1988)
Long-Slit Optical Spectroscopy of Emission-Line Nebulae in Radio Galaxies: The Data. *Stefi A. Baum, Timothy Heckman, & Wil van Breugel.* 74, 389, 35-G7 (1990)
Extended Lyα Emission Associated with 3C 294. *Patrick J. McCarthy, Hyron Spinrad, Wil van Breugel, James Liebert, Mark Dickinson, S. Djorgovski, & Peter Eisenhardt.* 365, 487, 214-B9 (1990)
VAN BREUGEL, WIL J. M. 4C 29.30: Extended Optical Line and Radio Emission in a Probable Galaxy Merger. *Wil J. M. van Breugel, Timothy M. Heckman, George K. Miley, & Alexei V. Filippenko.* 311, 58, 146-E8 (1986)
Serendipitous Discovery of a Redshift 4.4 QSO. *Patrick J. McCarthy, Mark Dickinson, Alexei V. Filippenko, Hyron Spinrad, & Wil J. M. van Breugel.* 328, L29, 74-C9 (1988)
VAN BUREN, DAVE. Kinetic Efficiencies of Stellar Wind Bubbles. *Dave Van Buren.* 306, 538, 90-D7 (1986)
Statistics of Equivalent Width Data and New Oscillator Strengths for Si II, Fe II, and Mn II. *Dave Van Buren.* 311, 400, 150-D9 (1986)
Bow Shocks and Bubbles Are Seen around Hot Stars by *IRAS*. *Dave Van Buren & Richard McCray.* 329, L93, 9-E1 (1988)
Infrared Supernovae in Starbursts. *Dave Van Buren & Colin A. Norman.* 336, L67, 16-F10 (1989)
The Volume Filling Factor of the Infrared Cirrus Is 0.2. *Dave Van Buren.* 338, 147, 34-G4 (1989)
Cometary Compact H II Regions Are Stellar-Wind Bow Shocks. *Dave Van Buren, Mordecai-Mark Mac Low, Douglas O. S. Wood, & Ed Churchwell.* 353, 570, 71-A8 (1990)
VAN CITTERS, G. WAYNE, JR. Observational Studies of Cepheids. VIII. Additional Radial Velocities of Cepheids and RR Lyrae Variables. *Teresa D. Wilson, Michael W. Carter, Thomas G. Barnes III, G. Wayne Van Citters, Jr., & Thomas J. Moffett.* 69, 951, 15-D3 (1989)
VAN DALEN, ANTHONY. Cosmic String Induced Peculiar Velocities. *Anthony van Dalen & David N. Schramm.* 326, 70, 32-F9 (1988)
Cosmic-String–induced Hot Dark Matter Perturbations. *Anthony van Dalen.* 351, 356, 44-D1 (1990)
VANDENBERG, DON A. Mass Functions for Globular Cluster Main Sequences Based on CCD Photometry and Stellar Models. *Robert D. McClure, Don A. VandenBerg, Graeme H. Smith, Gregory G. Fahlman, Harvey B. Richer, James E. Hesser, William E. Harris, Peter B. Stetson, & R. A. Bell.* 307, L49, 107-B10 (1986)
Carbon Isotope Ratios in Field Population II Giant Stars. *Christopher Sneden, Catherine A. Pilachowski, & Don A. VandenBerg.* 311, 826, 156-G5 (1986)
Theoretical Isochrones for Globular Clusters with Predicted Thuan-Gunn Photometry. *R. A. Bell & Don A. VandenBerg.* 63, 335, 5-D10 (1987)
Theoretical Isochrones for Old, Super–Metal-rich Stars. *Don A. VandenBerg & P. G. Laskarides.* 64, 103, 18-C9 (1987)
Thermal Instabilities in Low-Mass Subgiants? *I. R. Von Rudloff, Don A. VandenBerg, & F. D. A. Hartwick.* 324, 840, 12-E11 (1988)
Deep CCD Photometry in Globular Clusters. VII. M30. *Harvey B. Richer, Gregory G. Fahlman, & Don A. VandenBerg.* 329, 187, 77-B2 (1988)
On the Horizontal Branch and the Helium Content of 47 Tucanae. *Ben Dorman, Don A. VandenBerg, & P. G. Laskarides.* 343, 750, 128-E3 (1989)
The Prediction of Stellar Effective Temperatures from the Mixing-Length Theory of Convection. *Brian B. Pedersen, Don A. VandenBerg, & Alan W. Irwin.* 352, 279, 53-C12 (1990)
VAN DEN BERGH, SIDNEY. Optical Studies of Cassiopeia A. VII. Search for a Stellar Remnant. *Sidney van den Bergh & Christopher J. Pritchet.* 307, 723, 104-G7 (1986)
Observations of RR Lyrae Stars in the Halo of M31. *Christopher J. Pritchet & Sidney van den Bergh.* 316, 517, 57-F2 (1987)
Observations of Novae in the Virgo Cluster. *Christopher J. Pritchet & Sidney van den Bergh.* 318, 507, 86-D7 (1987)
The Supernova Rate in Shapley-Ames Galaxies. *Sidney van den Bergh, Robert D. McClure, & Robert Evans.* 323, 44, 153-E4 (1987)
Classification of Supernovae and Their Remnants. *Sidney van den Bergh.* 327, 156, 48-F6 (1988)
Stellar Populations in the Inner Halo of M31. *C. J. Pritchet & Sidney van den Bergh.* 331, 135, 107-E1 (1988)
An Improved Proper-Motion Measurement of SN 1006. *Knox S. Long, William P. Blair, & Sidney van den Bergh.* 333, 749, 149-D7 (1988)
The Crab Synchrotron Nebula at 0$''$.5 Resolution. *Sidney van den Bergh & C. J. Pritchet.* 338, L69, 49-D5 (1989)
The Rate of Stellar Collapses in the Galaxy. *Kavan U. Ratnatunga & Sidney van den Bergh.* 343, 713, 128-B5 (1989)
Revised Supernova Rates in Shapley-Ames Galaxies. *Robert Evans, Sidney van den Bergh, & Robert D. McClure.* 345, 752, 160-B1 (1989)
The Intrinsic Frequency of Faint Supernovae Resembling SN 1987A. *Sidney van den Bergh & R. D. McClure.* 347, L29, 189-D7 (1989)
What Are S0 Galaxies? *Sidney van den Bergh.* 348, 57, 1-F11 (1990)
A Search for Fast-moving Features in the Optical Remnant of 3C 58. *Sidney van den Bergh.* 357, 138, 112-F12 (1990)
Classification of Galaxies on CCD Frames. *Sidney van den Bergh, Michael J. Pierce, & R. Brent Tully.* 359, 4, 134-B5 (1990)
Supernova Rates and Galaxy Inclinations. *Sidney van den Bergh & Robert D. McClure.* 359, 277, 139-D13 (1990)
The Dustiness, Luminosity, and Metallicity of Galaxies. *Sidney van den Bergh & Michael J. Pierce.* 364, 444, 201-D14 (1990)
CCD Observations of the Polarization of the Crab Nebula. *Paul Hickson & Sidney van den Bergh.* 365, 224, 209-A1 (1990)
VANDEN BOUT, PAUL. Submillimeter Spectral Line Observations in Very Dense Regions. *Neal J. Evans II, Lee G. Mundy, John H. Davis, & Paul Vanden Bout.* 312, 344, 4-E13 (1987)
VAN DEN HEUVEL, E. P. J. Magnetic Field Decay and the Origin of Neutron Star Binaries. *Ronald E. Taam & E. P. J. van den Heuvel.* 305, 235, 69-E7 (1986)
VAN DEN HORN, L. J. Neutrino Diffusion in Stellar Collapse. *L. J. van den Horn & J. Cooperstein.* 300, 142, 2-E10 (1986)
Neutrino Flows in Collapsing Stars: A Two-Fluid Model. *J. Cooperstein, L. J. van den Horn, & E. A. Baron.* 309, 653, 128-D5 (1986)
Neutrino Flows in Collapsing Stars: A Two-Fluid Model: Erratum. *J. Cooperstein, L. J. van den Horn, & E. A. Baron.* 315, 729, 48-E10 (1987) (Orig. paper in 309, 653, 128-D5 (1986))
Neutrino Pair Energy Deposition in Supernovae. *J. Cooperstein, L. J. van den Horn, & E. Baron.* 321, L129, 137-C7 (1987)
General Relativistic Neutrino Transport in Stellar Collapse. *E. Baron, E. S. Myra, J. Cooperstein, & L. J. van den Horn.* 339, 978, 63-G1 (1989)
VAN DEN OORD, G. H. J. An *EXOSAT* Observation of Quiescent and Flare Coronal X-Ray Emission from Algol. *N. E. White, J. L. Culhane, A. N. Parmar, B. J. Kellett, S. Kahn, G. H. J. van den Oord, & J. Kuijpers.* 301, 262, 16-F14 (1986)

Beam Heating in Solar Flares: Electrons or Protons? *J. C. Brown, M. Karlicky, A. L. MacKinnon, & G. H. J. van den Oord.* 73, 343, 22-D9 (1990)

VAN DER HUCHT, K. A. The Ultraviolet Spectrum of Procyon. I. The Atlas from 2030 to 2371 Å. *R. Faraggiana, F. Castelli, C. Morossi, Y. Kondo, & K. A. van der Hucht.* 61, 719, 27-D2 (1986)

VAN DER HUCHT, KAREL A. Polarimetry of Four Wolf-Rayet Stars. *Regina E. Schulte-Ladbeck & Karel A. van der Hucht.* 337, 872, 29-F10 (1989)

VAN DER HULST, J. M. Radio Supernovae. *K. W. Weiler, R. A. Sramek, N. Panagia, J. M. van der Hulst, & M. Salvati.* 301, 790, 24-C5 (1986)

Spiral Structure of M51: Thermal and Nonthermal Emission. *R. P. J. Tilanus, R. J. Allen, J. M. van der Hulst, P. C. Crane, & R. C. Kennicutt.* 330, 667, 99-G1 (1988)

Radio Emission from Supernovae. I. One to Twelve Year Old Supernovae. *Kurt W. Weiler, Nino Panagia, Richard A. Sramek, J. M. van der Hulst, Morton S. Roberts, & Linh Nguyen.* 336, 421, 6-D2 (1989)

H I in Barred Spiral Galaxies. I. NGC 1365. *Marc P. Ondrechen & J. M. van der Hulst.* 342, 29, 101-C12 (1989)

H I in Barred Spiral Galaxies. II. NGC 1097. *M. P. Ondrechen, J. M. van der Hulst, & E. Hummel.* 342, 39, 101-D13 (1989)

VAN DER KLIS, M. Correlation between Spectral State and Quasi-periodic Oscillation Parameters in GX 5-1. *M. van der Klis, F. Jansen, J. van Paradijs, W. H. G. Lewin, M. Sztajno, & J. Trümper.* 313, L19, 21-B7 (1987)

Intensity and Source State Dependence of the Quasi-periodic Oscillations in Scorpius X-1. *M. van der Klis, L. Stella, N. White, F. Jansen, & A. N. Parmar.* 316, 411, 54-E3 (1987)

The Complex Cross-Spectra of Cygnus X-2 and GX 5-1. *M. van der Klis, G. Hasinger, L. Stella, A. Langmeier, J. van Paradijs, & W. H. G. Lewin.* 319, L13, 100-B2 (1987)

EXOSAT Observations of 4U/MXB 1636–53: On the Relation between the Amount of Accreted Fuel and the Strength of an X-Ray Burst. *W. H. G. Lewin, W. Penninx, J. van Paradijs, E. Damen, M. Sztajno, J. Trümper, & M. van der Klis.* 319, 893, 104-F9 (1987)

X-Ray Spectrum and Variability of the Black Hole Candidate LMC X-3. *A. Treves, T. Belloni, L. Chiappetti, L. Maraschi, L. Stella, E. G. Tanzi, & M. van der Klis.* 325, 119, 20-D8 (1988)

Time Lags in the Quasi-periodic Oscillations of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, M. van der Klis, & J. van Paradijs.* 327, L13, 53-B1 (1988)

4U 1626–67: The Binary with the Smallest Known Mass Function. *A. Levine, C. P. Ma, J. McClintock, S. Rappaport, M. van der Klis, & F. Verbunt.* 327, 732, 56-E14 (1988)

Observations of the Late Superhump in VW Hydri. *H. van der Woerd, M. van der Klis, J. van Paradijs, K. Beuermann, & C. Motch.* 330, 911, 102-E1 (1988)

EXOSAT Observations of the Supernova Remnant G109.1–1.0 and the X-Ray Pulsar 1E 2259+586. *M. Morini, N. R. Robba, A. Smith, & M. van der Klis.* 333, 777, 148-G1 (1988)

The Discovery of 2.93 Hour Periodic Intensity Dips from X1323–619. *A. N. Parmar, M. Gottwald, M. van der Klis, & J. van Paradijs.* 338, 1024, 46-E1 (1989)

Ginga Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

Correlation of X-Ray Burst Properties with Source State in the "Atoll" Source 4U/MXB 1636–53. *M. van der Klis, G. Hasinger, E. Damen, W. Penninx, J. van Paradijs, & W. H. G. Lewin.* 360, L19, 149-D1 (1990)

VAN DER KLIS, MICHIEL. Outburst, Identification, and X-Ray Light Curve of GS 1354–64 (=MX 1353–64?, Centaurus X-2?). *Shunji Kitamoto, Hiroshi Tsunemi, Holger Pedersen, Sergio A. Ilovaisky, & Michiel van der Klis.* 361, 590, 165-D3 (1990)

VAN DER KRUIT, P. C. Stellar Kinematics and the Stability of Disks in Spiral Galaxies. *P. C. van der Kruit & K. C. Freeman.* 303, 556, 48-E8 (1986)

VAN DER RAAY, H. B. The 160 Minute Solar Oscillation: An Artifact? *Y. P. Elsworth, S. M. Jefferies, C. P. McLeod, R. New, P. L. Pallé, H. B. van der Raay, C. Régulo, & T. Roca Cortés.* 338, 557, 39-F7 (1989)

VANDERRIEST, CH. High-Resolution Imaging of the Double QSO 2345+007: Evidence for Subcomponents. *J.-L. Nieto, S. Roques, A. Llebaria, Ch. Vanderriest, G. Lelièvre, S. di Serego Alighieri, F. D. Macchetto, & M. A. C. Perryman.* 325, 644, 27-E8 (1988)

VANDERSPEK, ROLAND K. Deep Optical and Radio Searches for a Quiescent Counterpart to the Optical Transient Source OTS 1809+31. *George R. Ricker, Patrick C. Mock, Edward A. Ajhar, & Roland K. Vanderspek.* 338, 983, 46-B1 (1989)

VANDERVEEN, K. Temporal Correlations between Impulsive Ultraviolet and Hard X-Ray Bursts in Solar Flares Observed with High Time Resolution. *Chung-Chieh Cheng, K. Vanderveen, L. E. Orwig, & E. Tandberg-Hanssen.* 330, 480, 95-F1 (1988)

VAN DER VELDE, J. C. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

VANDERVOORT, PETER O. On Lagrangian Methods for the Study of Small Perturbations in Stellar Systems. *Peter O. Vandervoort.* 341, 105, 85-C5 (1989)

Numerical Experiments on the Oscillations of a Rotating, Axisymmetric Galaxy. *R. H. Miller, Peter O. Vandervoort, Daniel E. Welty, & B. F. Smith.* 342, 105, 102-C6 (1989)

VAN DER WALT, D. J. MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

VAN DER WERF, PAUL P. Subparsec-Size H I Cloudlets Associated with Orion A. *Paul P. van der Werf & W. M. Goss.* 364, 157, 196-A5 (1990)

VAN DER WOERD, H. Observations of the Late Superhump in VW Hydri. *H. van der Woerd, M. van der Klis, J. van Paradijs, K. Beuermann, & C. Motch.* 330, 911, 102-E1 (1988)

X-Ray Spectroscopy of the Ultrasoft Transient 4U 1543–47. *H. van der Woerd, N. E. White, & S. M. Kahn.* 344, 320, 137-A7 (1989)

The Complex 0.4–12 keV X-Ray Spectrum of Cygnus X-1. *P. Barr & H. van der Woerd.* 352, L41, 61-C6 (1990)

VAN DER ZWET, G. P. Shapes and Correlations as Observational Discriminants for the Origin of Diffuse Bands. *G. Chlewicki, G. P. van der Zwet, L. J. van Ijzendoorn, & J. M. Greenberg.* 305, 455, 72-B5 (1986)

VAN DE STADT, H. Carbon Monoxide in the Magellanic Clouds. *F. P. Israel, Th. de Graauw, H. van de Stadt, & C. P. de Vries.* 303, 186, 43-B4 (1986)

VAN DE WEYGAERT, RIEN. Clustering Paradigms and Multifractal Measures. *Vicent J. Martínez, Bernard J. T. Jones, Rosa Domínguez-Tenreiro, & Rien van de Weygaert.* 357, 50, 111-F3 (1990)

VAN DISHOECK, E. F. Large Molecules in Diffuse Interstellar Clouds. *S. Lepp, A. Dalgarno, E. F. van Dishoeck, & J. H. Black.* 329, 418, 79-F2 (1988)

The CS Molecule in Diffuse Interstellar Clouds. *K. Drdla, G. R. Knapp, & E. F. van Dishoeck.* 345, 815, 160-G1 (1989)

VAN DISHOECK, EWINE F. Detection of the (3,0) Phillips Band of Interstellar C_2 toward Zeta Ophiuchi. *Ewine F. van Dishoeck & John H. Black.* 307, 332, 98-F8 (1986)

Comprehensive Models of Diffuse Interstellar Clouds: Physical Conditions and Molecular Abundances. *Ewine F. van Dishoeck & John H. Black.* 62, 109, 33-B7 (1986)

Fluorescent Excitation of Interstellar H_2. *John H. Black & Ewine F. van Dishoeck.* 322, 412, 142-C11 (1987)

OH and CH Continuous Opacity in Solar and Stellar Atmospheres. *Robert L. Kurucz, Ewine F. van Dishoeck, & S. P. Tarafdar.* 322, 992, 150-F13 (1987)

Unresolved Velocity Structure in Diffuse Interstellar Clouds. *John H. Black & Ewine F. van Dishoeck.* 331, 986, 119-G7 (1988)
The Small Molecular Cloud toward HD 169454. *Buell T. Jannuzi, John H. Black, Charles J. Lada, & Ewine F. van Dishoeck.* 332, 995, 135-D2 (1988)
The Photodissociation and Chemistry of Interstellar CO. *Ewine F. van Dishoeck & John H. Black.* 334, 771, 165-A2 (1988)
Fluorescent Vibration-Rotation Excitation of Cometary C_2. *Roland Gredel, Ewine F. van Dishoeck, & John H. Black.* 338, 1047, 46-F10 (1989)
Interstellar C_2, CH, and CN in Translucent Molecular Clouds. *Ewine F. van Dishoeck & John H. Black.* 340, 273, 70-D8 (1989)
Velocities and Rotational Excitation of Interstellar H_2 toward π Scorpii. *Edward B. Jenkins, Joanna F. Lees, Ewine F. van Dishoeck, & Eric M. Wilcots.* 343, 785, 129-A8 (1989)
Interstellar Absorption Lines toward NGC 2264 and AFGL 2591: Abundances of H_2, H^{+3}, and CO. *John H. Black, Ewine F. van Dishoeck, S. P. Willner, & R. Claude Woods.* 358, 459, 129-C8 (1990)
The Photodissociation and Chemistry of Interstellar CO: Erratum. *Ewine F. van Dishoeck & John H. Black.* 360, 314, 148-G13 (1990) (Orig. paper in 334, 771, 165-A2 (1988))
VANEK, M. D. Frequency Measurement of the $J = 1 \leftarrow 0$ Rotational Transition of HD. *K. M. Evenson, D. A. Jennings, J. M. Brown, L. R. Zink, K. R. Leopold, M. D. Vanek, & I. G. Nolt.* 330, L135, 105-B5 (1988)
VANELDIK, J. F. Discovery of a Shell-Type Supernova Remnant in the Direction of the Young Pulsar PSR 1930+22. *D. Routledge & J. F. Vaneldik.* 326, 751, 41-G7 (1988)
VAN GENDEREN, A. M. Photometry and Polarimetry of the Unusual WN5 Star EZ Canis Majoris. *L. Drissen, C. Robert, R. Lamontagne, A. F. J. Moffat, N. St-Louis, N. van Weeren, & A. M. van Genderen.* 343, 426, 123-C13 (1989)
VANGIONI-FLAM, E. The G-Dwarf Problem and the Closed-Box Models of Galactic Evolution. *P. François, E. Vangioni-Flam, & J. Audouze.* 361, 487, 164-B7 (1990)
VANGIONI-FLAM, ELISABETH. Evolution of Fe, *r*, and *s* Elements in Our Galaxy. *Paola Andreani, Elisabeth Vangioni-Flam, & Jean Audouze.* 334, 698, 164-B1 (1988)
On the Evolution of Lithium 7 in Globular Clusters. *Elisabeth Vangioni-Flam, Michel Cassé, & Yvette Oberto.* 349, 510, 21-F1 (1990)
The Evolution of ^{9}Be. *Elisabeth Vangioni-Flam, Michel Cassé, Jean Audouze, & Yvette Oberto.* 364, 568, 203-B12 (1990)
VAN GORKOM, J. H. Radio Observations of the 1985 Outburst of RS Ophiuchi. *R. M. Hjellming, J. H. van Gorkom, E. R. Seaquist, A. R. Taylor, S. Padin, R. J. Davis, & M. F. Bode.* 305, L71, 80-D9 (1986)
Rotating and Expanding Ultracompact H II Regions. *Guido Garay, Luis F. Rodríguez, & J. H. van Gorkom.* 309, 553, 127-C4 (1986)
The Peculiar Galaxy IC 4553. II. VLA Observations of the Neutral Hydrogen. *Willem A. Baan, J. H. van Gorkom, Joan T. Schmelz, & I. Félix Mirabel.* 313, 102, 16-B7 (1987)
The H I Distribution and Kinematics in Four Low-Luminosity Elliptical Galaxies. *George Lake, R. A. Schommer, & J. H. van Gorkom.* 314, 57, 28-E12 (1987)
H I Maps of S0 Galaxies with Polar Rings. *J. H. van Gorkom, Paul L. Schechter, & Jerome Kristian.* 314, 457, 34-E3 (1987)
Discovery of Low-Redshift, Neutral Hydrogen Absorption in the Radio Spectrum of PKS 2020−370. *C. L. Carilli & J. H. van Gorkom.* 319, 683, 102-D8 (1987)
H I Observations of the Elliptical Galaxies NGC 2974 and NGC 5018. *D.-W. Kim, P. Guhathakurta, J. H. van Gorkom, M. Jura, & G. R. Knapp.* 330, 684, 100-A8 (1988)
Radio Studies of the Galactic Center. I. The Sagittarius A Complex. *A. Pedlar, K. R. Anantharamaiah, R. D. Ekers, W. M. Goss, J. H. van Gorkom, U. J. Schwarz, & Jun-hui Zhao.* 342, 769, 112-A1 (1989)
H I Observations of Three *IRAS* Detected Elliptical Galaxies. *D. E. P. Walsh, J. H. van Gorkom, W. E. Bies, N. Katz, G. R. Knapp, & S. Wallington.* 352, 532, 57-F3 (1990)
VAN GORKOM, JACQUELINE H. The Neutral Hydrogen Ring, Mass-to-Light Ratio, and Dark Halo of the Elliptical Galaxy IC 2006. *François Schweizer, Jacqueline H. van Gorkom, & Patrick Seitzer.* 338, 770, 43-D3 (1989)
VAN HAMME, W. The Restricted Four-Body Problem and Epsilon Aurigae. *W. Van Hamme & R. E. Wilson.* 306, L33, 86-C5 (1986)
Close Binary Mass Anomalies and Metallicity. *W. Van Hamme & R. E. Wilson.* 307, 151, 96-F6 (1986)
VAN HOLLEBEKE, M. A. I. Solar Energetic Particle Observations of the 1982 June 3 and 1980 June 21 Gamma-Ray/Neutron Events. *M. A. I. Van Hollebeke, F. B. McDonald, & J. P. Meyer.* 73, 285, 21-F1 (1990)
VANHOOK, S. J. Observational Limits on a Millihertz Stochastic Background of Gravitational Radiation. *S. P. Boughn, S. J. VanHook, & C. M. O'Neill.* 354, 406, 81-D9 (1990)
VANHOOSIER, M. E. The High-Resolution Solar Spectrum, 1175–1710 Å. *G. D. Sandlin, J.-D. F. Bartoe, G. E. Brueckner, R. Tousey, & M. E. VanHoosier.* 61, 801, 29-A4 (1986)
VAN HORN, H. M. Oscillation Spectra of Neutron Stars with Strong Magnetic Fields. *B. W. Carroll, E. G. Zweibel, C. J. Hansen, P. N. McDermott, M. P. Savedoff, J. H. Thomas, & H. M. Van Horn.* 305, 767, 77-C9 (1986)
Magnetic Field Evolution in White Dwarfs. *C. E. Wendell, H. M. Van Horn, & D. Sargent.* 313, 284, 18-A12 (1987)
An Independent Method for Determining the Age of the Universe. *D. E. Winget, C. J. Hansen, James Liebert, H. M. Van Horn, G. Fontaine, R. E. Nather, S. O. Kepler, & D. Q. Lamb.* 315, L77, 49-B1 (1987)
A Helix Model for the Acceleration of Blobs in Astrophysical Jets. *T. Koupelis & H. M. Van Horn.* 324, 93, 2-A2 (1988)
Nonradial Oscillations of Neutron Stars. *P. N. McDermott, H. M. Van Horn, & C. J. Hansen.* 325, 725, 28-D13 (1988)
A Quasi–one-dimensional Model for Narrow Astrophysical Jets. *T. Koupelis & H. M. Van Horn.* 342, 146, 102-F13 (1989)
VAN HOVEN, G. Ideal Condensations due to Perpendicular Thermal Conduction in a Sheared Magnetic Field. *G. Van Hoven, L. Sparks, & T. Tachi.* 300, 249, 3-F8 (1986)
Nonlinear Radiative Condensation in a Sheared Magnetic Field. *G. Van Hoven, L. Sparks, & D. D. Schnack.* 317, L91, 78-D9 (1987)
Thermal Instability of a Radiative and Resistive Coronal Plasma. *L. Sparks & G. Van Hoven.* 333, 953, 150-G1 (1988)
Creation of Current Filaments in the Solar Corona. *Z. Mikić, D. D. Schnack, & G. Van Hoven.* 338, 1148, 47-G4 (1989)
The Nonlinear Evolution of Magnetized Solar Filaments. *L. Sparks, G. Van Hoven, & D. D. Schnack.* 353, 297, 66-A1 (1990)
Prominence Formation in a Coronal Loop. *Y. Mok, J. F. Drake, D. D. Schnack, & G. Van Hoven.* 359, 228, 136-G11 (1990)
Dynamical Evolution of Twisted Magnetic Flux Tubes. I. Equilibrium and Linear Stability. *Z. Mikić, D. D. Schnack, & G. Van Hoven.* 361, 690, 166-F1 (1990)
VAN IJZENDOORN, L. J. Shapes and Correlations as Observational Discriminants for the Origin of Diffuse Bands. *G. Chlewicki, G. P. van der Zwet, L. J. van Ijzendoorn, & J. M. Greenberg.* 305, 455, 72-B5 (1986)
VANKATESAN, T. R. Solar Flare Neon Composition and Solar Cosmic-Ray Exposure Ages Based on Lunar Mineral Separates. *C. M. Nautiyal, J. T. Padia, M. N. Rao, & T. R. Vankatesan.* 301, 465, 18-G14 (1986)
VANKOV, H. P. Proton-generated MeV Gamma Rays from Supernova 1987A. *Todor Stanev & H. P. Vankov.* 343, 828, 129-E4 (1989)
VANNONI, R. Far-Infrared Diffuse Emission: Cosecant *b* Law and Galaxy Counts. *P. de Bernardis, S. Masi, F. Melchiorri, G. Moreno, R. Vannoni, & S. Aiello.* 326, 941, 43-G8 (1988)
VAN PARADIJS, J. Correlation between Spectral State and Quasi-periodic Oscillation Parameters in GX 5-1. *M. van der Klis, F. Jansen, J. van Paradijs, W. H. G. Lewin, M. Sztajno, & J. Trümper.* 313, L19, 21-B7 (1987)
The Complex Cross-Spectra of Cygnus X-2 and GX 5-1. *M. van der Klis, G. Hasinger, L. Stella, A. Langmeier, J. van Paradijs, & W. H. G. Lewin.* 319, L13, 100-B2 (1987)
EXOSAT Observations of 4U/MXB 1636−53: On the Relation between the Amount of Accreted Fuel and the Strength of an X-Ray Burst. *W. H. G. Lewin, W. Penninx, J. van Paradijs, E. Damen, M. Sztajno, J. Trümper, & M. van der Klis.* 319, 893, 104-F9 (1987)

Multipeaked X-Ray Bursts from 4U/MXB 1636–53: Evidence against Burst-induced Accretion Disk Coronae. *W. Penninx, J. van Paradijs, & W. H. G. Lewin.* 321, L67, 129-G4 (1987)

Quasi-periodic Oscillations in the X-Ray Flux of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, J. van Paradijs, & N. E. White.* 324, 379, 5-C9 (1988)

Time Lags in the Quasi-periodic Oscillations of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, M. van der Klis, & J. van Paradijs.* 327, L13, 53-B1 (1988)

Observations of the Late Superhump in VW Hydri. *H. van der Woerd, M. van der Klis, J. van Paradijs, K. Beuermann, & C. Motch.* 330, 911, 102-E1 (1988)

The Discovery of 2.93 Hour Periodic Intensity Dips from X1323–619. *A. N. Parmar, M. Gottwald, M. van der Klis, & J. van Paradijs.* 338, 1024, 46-E1 (1989)

X-Ray Bursts from 4U 1705–44: Another Case of Burst Properties Dependent on the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. Langmeier, G. Hasinger, W. H. G. Lewin, & J. van Paradijs.* 339, 1044, 64-E8 (1989)

Ginga Observations of Quasi-periodic Oscillations in Type II Bursts from the Rapid Burster. *T. Dotani, K. Mitsuda, H. Inoue, Y. Tanaka, N. Kawai, Y. Tawara, K. Makishima, J. van Paradijs, W. Penninx, M. van der Klis, J. Tan, & W. H. G. Lewin.* 350, 395, 29-G7 (1990)

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

Correlation of X-Ray Burst Properties with Source State in the "Atoll" Source 4U/MXB 1636–53. *M. van der Klis, G. Hasinger, E. Damen, W. Penninx, J. van Paradijs, & W. H. G. Lewin.* 360, L19, 149-D1 (1990)

Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)

VAN PARADIJS, JAN. On the Theory of Type I X-Ray Bursts. The Energetics of Bursts and the Nuclear Fuel Reservoir in the Envelope. *Masayuki Y. Fujimoto, Mirek Sztajno, Walter H. G. Lewin, & Jan van Paradijs.* 319, 902, 104-G5 (1987)

VAN RIPER, K. A. The Effects of Neutrino Transport on the Collapse of Iron Stellar Cores. *E. S. Myra, S. A. Bludman, Y. Hoffman, I. Lichenstadt, N. Sack, & K. A. Van Riper.* 318, 744, 89-B2 (1987)

VAN RIPER, KENNETH A. Effects of Nuclear Equation of State on General Relativistic Stellar Core Collapse Models. *Kenneth A. Van Riper.* 326, 235, 34-G1 (1988)

Magnetic Neutron Star Atmospheres. *Kenneth A. Van Riper.* 329, 339, 78-G5 (1988)

VAN SANTVOORT, J. The First UV Spectrum of Triton: *IUE* Observations from 2600 to 3200 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 341, L107, 100-D1 (1989)

The UV Spectrum of Pluto-Charon: *IUE* Observations from 2600 to 3100 Å. *S. Alan Stern, T. E. Skinner, N. Brosch, J. van Santvoort, & L. M. Trafton.* 342, 533, 107-C7 (1989)

VAN SPEYBROECK, L. S. The X-Ray Spectral Properties of the Bulge of M31. *G. Fabbiano, G. Trinchieri, & L. S. Van Speybroeck.* 316, 127, 51-D1 (1987)

VAN STEENBERG, MICHAEL E. Galactic Interstellar Abundance Surveys with *IUE*. II. The Equivalent Widths and Column Densities. *Michael E. Van Steenberg & J. Michael Shull.* 67, 225, 14-A1 (1988)

Galactic Interstellar Abundance Surveys with *IUE*. III. Silicon, Manganese, Iron, Sulfur, and Zinc. *Michael E. Van Steenberg & J. Michael Shull.* 330, 942, 102-G7 (1988)

IUE–IRAS Studies of the Infrared Cirrus. *Michael E. Van Steenberg & J. Michael Shull.* 335, 197, 172-F1 (1988)

Galactic Interstellar Abundance Surveys with *IUE*. III. Silicon, Manganese, Iron, Sulfur, and Zinc: Erratum. *Michael E. Van Steenberg & J. Michael Shull.* 340, 624, 75-A9 (1989) (Orig. paper in 330, 942, 102-G7 (1988))

VAN TONDER, A. J. Pulsed Very High Energy Gamma Rays from the *COS B* Source 2CG 006–00. *B. C. Raubenheimer, A. R. North, O. C. de Jager, G. van Urk, & A. J. van Tonder.* 307, L43, 107-B5 (1986)

VAN URK, G. Pulsed Very High Energy Gamma Rays from the *COS B* Source 2CG 006–00. *B. C. Raubenheimer, A. R. North, O. C. de Jager, G. van Urk, & A. J. van Tonder.* 307, L43, 107-B5 (1986)

VAN URK, G. A TeV Triple Peak from PSR 1509–58? *O. C. de Jager, B. C. Raubenheimer, A. R. North, H. I. Nel, & G. Van Urk.* 329, 831, 86-B4 (1988)

VAN URK, G. MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

VAN WEEREN, N. Photometry and Polarimetry of the Unusual WN5 Star EZ Canis Majoris. *L. Drissen, C. Robert, R. Lamontagne, A. F. J. Moffat, N. St-Louis, N. van Weeren, & A. M. van Genderen.* 343, 426, 123-C13 (1989)

VAN WEEREN, NIELS. Photometric and Polarimetric Variability and Mass-Loss Rate of the Massive Binary Wolf-Rayet Star HDE 311884 (WN6+O5:V). *Anthony F. J. Moffat, Laurent Drissen, Carmelle Robert, Robert Lamontagne, Roger Coziol, Normand Mousseau, Virpi S. Niemela, Miguel A. Cerruti, Wilhelm Seggewiss, & Niels van Weeren.* 350, 767, 35-E4 (1990)

VARDYA, M. S. *IRAS* Low-Resolution Spectrograph Observations of Silicate and Molecular SiO Emission in Mira Variables. *M. S. Vardya, T. de Jong, & F. J. Willems.* 304, L29, 61-C2 (1986)

Some Comments on Empirical Fits to Stellar Mass Loss Rates. *M. S. Vardya.* 312, 812, 11-F13 (1987)

VARENDORF, M. MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

VARNAS, S. R. NGC 5266: An Elliptical Galaxy with a Dust Ring. *S. R. Varnas, F. Bertola, G. Galletta, K. C. Freeman, & D. Carter.* 313, 69, 15-F12 (1987)

VARNELL, L. S. Gamma-Ray Observations of ^{56}Co in SN 1987A. *W. A. Mahoney, L. S. Varnell, A. S. Jacobson, J. C. Ling, R. G. Radocinski, & Wm. A. Wheaton.* 334, L81, 169-D5 (1988)

VASANTHI, M. M. Dynamical Scenarios with Unstable Neutrinos. *T. Padmanabhan & M. M. Vasanthi.* 315, 411, 45-C1 (1987)

VASQUEZ, BERNARD J. Magnetohydrodynamic Mode Coupling at a Large Density Jump. *Bernard J. Vasquez.* 356, 693, 108-G6 (1990)

VAUCLAIR, G. An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather, D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine.* 357, 204, 113-E7 (1990)

Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

VAUCLAIR, SYLVIE. Lithium Nuclear Destruction in Stellar Outer Layers: A Consistent Theoretical View of the Characteristic Features Observed in Young and Old Stars. *Sylvie Vauclair.* 335, 971, 183-D1 (1988)

VAUGHAN, B. A. Search for Millisecond X-Ray Pulsations from the Galactic Bulge X-Ray Source GX 9+1. *P. Hertz, J. P. Norris, K. S. Wood, B. A. Vaughan, & P. F. Michelson.* 354, 267, 77-D7 (1990)

Independence of Short Time Scale Fluctuations of Quasi-periodic Oscillations and Low-Frequency Noise in GX 5–1. *J. P. Norris, P. Hertz, K. S. Wood, B. A. Vaughan, P. F. Michelson, K. Mitsuda, & T. Dotani.* 361, 514, 164-E1 (1990)

VÁZQUEZ, ENRIQUE C. Evolution of the Star Formation Rate in Galaxies with Increasing Densities. *Enrique C. Vázquez & John M. Scalo.* 343, 644, 127-C1 (1989)

VÁZQUEZ, M. Circular Polarization of the Ca II H and K Lines in Solar Quiet and Active Regions. *V. Martínez Pillet, R. J. García López, J. C. del Toro Iniesta, R. Rebolo, M. Vázquez, J. E. Beckman, & S. Char.* 361, L81, 168-F6 (1990)

VEALÉ, ANTHONY. Stringent Limits on the Ionized Mass Loss from A and F Dwarfs. *Alexander Brown, Anthony Vealé, Philip Judge, Jay A. Bookbinder, & Ivan Hubeny.* 361, 220, 159-F3 (1990)

VEDDER, P. W. High-Resolution X-Ray Spectroscopic Evidence on Nonequlibrium Conditions in the Cygnus Loop. *P. W. Vedder, C. R. Canizares, T. H. Markert, & A. K. Pradhan.* 307, 269, 98-A3 (1986)

High-Resolution Sodium Absorption-Line Observations of the Local Interstellar Medium. *B. Y. Welsh, P. W. Vedder, & J. V. Vallerga.* 358, 473, 129-D11 (1990)

VEDDER, PETER W. Models of Steady State Cooling Flows in Elliptical Galaxies. *Peter W. Vedder, Jeffrey J. Trester, & Claude R. Canizares.* 332, 725, 132-C3 (1988)

VEDEL, HENRIK. A Round Dynamical Model of the Metal-weak Stellar Halo. *Henrik Vedel & Jesper Sommer-Larsen.* 359, 104, 135-D1 (1990)

VEDRENNE, G. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

Hard X-Ray Pulse Profile and Period Evaluation of A0535+26 and GX 1+4 as Observed by the Franco-Soviet Signe Satellite Experiments. *A. Refloc'h, G. Chambon, M. Niel, G. Vedrenne, & Ch. Yu. Rakhamimov.* 310, 773, 142-D3 (1986)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

Short Solar Events with Evidence of Repetitive Structures. *Upendra D. Desai, Chryssa Kouveliotou, C. Barat, K. Hurley, M. Niel, R. Talon, G. Vedrenne, I. V. Estulin, & V. Ch. Dolidze.* 319, 567, 99-E1 (1987)

Localization, Time Histories, and Energy Spectra of a New Type of Recurrent High-Energy Transient Source. *J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, A. V. Kuznetsov, R. A. Sunyaev, O. V. Terekhov, C. Kouveliotou, T. Cline, B. Dennis, U. Desai, & L. Orwig.* 320, L105, 121-C7 (1987)

A New Type of Repetitive Behavior in a High-Energy Transient. *J. G. Laros, E. E. Fenimore, R. W. Klebesadel, J.-L. Atteia, M. Boer, K. Hurley, M. Niel, G. Vedrenne, S. R. Kane, C. Kouveliotou, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 320, L111, 121-C13 (1987)

SMM Hard X-Ray Observations of the Soft Gamma-Ray Repeater 1806−20. *C. Kouveliotou, J. P. Norris, T. L. Cline, B. R. Dennis, U. D. Desai, L. E. Orwig, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, J.-L. Atteia, M. Boer, K. Hurley, M. Neil, G. Vedrenne, A. V. Kuznetsov, R. A. Sunyaev, & O. V. Terekhov.* 322, L21, 145-B8 (1987)

Observation of the Crab Pulsar, PSR 0531+21, at 0.2–6.0 MeV with the FIGARO II Experiment. *B. Agrinier, J. L. Masnou, B. Parlier, M. Niel, P. Mandrou, G. Vedrenne, G. Gerardi, T. Mineo, B. Sacco, L. Scarsi, E. Costa, E. Massaro, G. Matt, M. Salvati, & A. G. Lyne.* 355, 645, 96-E10 (1990)

VEEDER, G. Multifrequency Observations of Blazars. II. The Variability of the 1 μm to 2 mm Continuum. *W. K. Gear, L. M. J. Brown, E. I. Robson, E. I. Ade, M. J. Griffin, M. G. Smith, I. G. Nolt, J. V. Radostitz, G. Veeder, & L. Lebofsky.* 304, 295, 57-B10 (1986)

VEERARAGHAVAN, SHOBA. Cosmic String Wakes. *Albert Stebbins, Shoba Veeraraghavan, Robert Brandenberger, Joseph Silk, & Neil Turok.* 322, 1, 138-A7 (1987)

Causal Compensated Perturbations in Cosmology. *Shoba Veeraraghavan & Albert Stebbins.* 365, 37, 206-E1 (1990)

VEIDT, B. CO Emission from Centaurus A. *T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, R. J. Howard, C. R. Masson, D. B. Sanders, B. Veidt, & K. Young.* 322, L73, 152-B8 (1987)

CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)

VEILLEUX, SYLVAIN. Spectral Classification of Emission-Line Galaxies. *Sylvain Veilleux & Donald E. Osterbrock.* 63, 295, 4-G1 (1987)

Stability of Narrow Emission-Line Clouds in Active Galactic Nuclei. *William G. Mathews & Sylvain Veilleux.* 336, 93, 2-B8 (1989)

Near-Infrared Emission-Line Spectra of the Orion Nebula, NGC 4151, and Other Seyfert Galaxies. *Donald E. Osterbrock, Richard A. Shaw, & Sylvain Veilleux.* 352, 561, 58-A7 (1990)

VELLI, M. Boundary Effects on the Magnetohydrodynamic Stability of a Resistive Plasma. *M. Velli, G. Einaudi, & A. W. Hood.* 350, 419, 30-B8 (1990)

Ideal Kink Instabilities in Line-tied Coronal Loops: Growth Rates and Geometrical Properties. *M. Velli, G. Einaudi, & A. W. Hood.* 350, 428, 30-C3 (1990)

VELTRI, PIERLUIGI. Extragalactic Jets as Current Carrying Systems. II. Magnetohydrodynamic Turbulence, Relativistic Electron Distribution, and Observable Quantities. *Edvige Corbelli & Pierluigi Veltri.* 340, 679, 76-G7 (1989)

VELUSAMY, T. Simultaneous VLA Observations of a Flare at 6 and 20 Centimeter Wavelengths. *T. Velusamy, M. R. Kundu, E. J. Schmahl, & M. McCabe.* 319, 984, 105-F4 (1987)

Simultaneous 2 and 6 Centimeter Wavelength Observations of a Solar Flare Using the VLA. *M. R. Kundu, T. Velusamy, & S. M. White.* 321, 593, 128-E9 (1987)

The Prevalence of Supernova Remnants among Unidentified Galactic Radio Sources. *David J. Helfand, T. Velusamy, R. H. Becker, & Felix J. Lockman.* 341, 151, 85-G1 (1989)

VENKATAKRISHNAN, P. Nonpotential Magnetic Fields at Sites of Gamma-Ray Flares. *M. J. Hagyard, P. Venkatakrishnan, & J. B. Smith, Jr.* 73, 159, 19-F13 (1990)

VENKATATKRISHNA, K. L. On the Ultraviolet Spectra of Type I Supernovae. *David Branch & K. L. Venkatatkrishna.* 306, L21, 86-B8 (1986)

VENN, KIMBERLEY. The Chemical Composition of Three Lambda Bootis Stars. *Kimberley Venn & David L. Lambert.* 363, 234, 185-A9 (1990)

VENNES, S. The Presence of Helium in Hot DA White Dwarfs: The Role of Radiative Levitation and the Case for Stratified Atmospheres. *S. Vennes, C. Pelletier, G. Fontaine, & F. Wesemael.* 331, 876, 118-E2 (1988)

An Explanation for the Peculiar EUV Spectrum of the Hot DA White Dwarf Feige 24. *S. Vennes, P. Chayer, G. Fontaine, & F. Wesemael.* 336, L25, 8-D9 (1989)

VENNES, STÉPHANE. Is the DA White Dwarf 1910+047 a Soft X-Ray Source? *Stéphane Vennes.* 361, L65, 168-D12 (1990)

On the Interpretation of the *EXOSAT* Photometry of Two Hot DA White Dwarfs. *Stéphane Vennes, Harry L. Shipman, & Robert Petre.* 364, 647, 204-B13 (1990)

VENTURINO, C. Millimeter Observations of the Magellanic Clouds. *P. Andreani, C. Ceccarelli, G. Dall'Oglio, L. Martinis, L. Piccirillo, L. Pizzo, L. Rossi, & C. Venturino.* 348, 467, 8-D3 (1990)

VERBUNT, F. 4U 1626−67: The Binary with the Smallest Known Mass Function. *A. Levine, C. P. Ma, J. McClintock, S. Rappaport, M. van der Klis, & F. Verbunt.* 327, 732, 56-E14 (1988)

Evolution of Wide Binary Millisecond Pulsars in Globular Clusters. *S. Rappaport, A. Putney, & F. Verbunt.* 345, 210, 151-F10 (1989)

VERBUNT, FRANK. The Formation of Ultra–Short Period Binaries in Globular Clusters. *Frank Verbunt.* 312, L23, 7-B9 (1987)

Mass Transfer Instabilities Due to Angular Momentum Flows in Close Binaries. *Frank Verbunt & Saul Rappaport.* 332, 193, 125-C1 (1988)

Tidal Forces and Mass Transfer Instabilities in Low-Mass X-Ray Binaries. *William C. Priedhorsky & Frank Verbunt.* 333, 895, 150-B2 (1988)

VERDAGUER, E. Finite Perturbations on Friedmann-Robertson-Walker Models. *J. Ibáñez & E. Verdaguer.* 306, 401, 88-G7 (1986)

VERDES-MONTENEGRO, LOURDES. Ammonia Observations of Outflow Regions. *Guillem Anglada, Luis F. Rodríguez, José M. Torrelles,*

Robert Estalella, Paul T. P. Ho, Jorge Cantó, Rosario López, & Lourdes Verdes-Montenegro. 341, 208, 86-E1 (1989)
Further Studies of the Role of Dense Molecular Clouds around Outflow Sources. *Lourdes Verdes-Montenegro, José M. Torrelles, Luis F. Rodríguez, Guillem Anglada, Rosario López, Robert Estalella, Jorge Cantó, & Paul T. P. Ho.* 346, 193, 168-E1 (1989)
VLA Observations of Ammonia and Continuum in Regions with High-Velocity Gaseous Outflows. II. *José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó, & Lourdes Verdes-Montenegro.* 346, 756, 176-F8 (1989)
VERGNE, M. MARCELA. Tidal Stripping and Accretion in Clusters of Galaxies with Smoothly Distributed Missing Mass. *Juan C. Muzzio, Victor H. Dessanuet, & M. Marcela Vergne.* 313, 112, 16-C4 (1987)
VERMA, R. P. Far-Infrared (120–300 Micron) Observations of the Carina Nebula. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 330, 928, 102-F6 (1988)
Far-Infrared (120–300 Micron) Observations of Southern H II Regions. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 69, 233, 4-D1 (1989)
Far-Infrared and Radio Observations of the W31 Star-forming Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, R. R. Daniel, & Paul T. P. Ho.* 347, 338, 186-C3 (1989)
Far-Infrared Observations of G351.6–1.3/G351.7–1.2 Region. *S. K. Ghosh, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, R. P. Verma, & R. R. Daniel.* 353, 564, 71-A1 (1990)
VERSCHUUR, GERRIT L. Measurements of the 21 Centimeter Zeeman Effect in High-Latitude Directions. *Gerrit L. Verschuur.* 339, 163, 52-A9 (1989)
An Association between H I Concentrations within High-Velocity Clouds A and C and Nearby Molecular Clouds. *Gerrit L. Verschuur.* 361, 497, 164-C7 (1990)
VERTER, FRANCES. Systematic Properties of CO Emission from Galaxies. I. Luminosity Function. *Frances Verter.* 65, 555, 37-A1 (1987)
Systematic Properties of CO Emission from Galaxies. II. Weighted Correlations. *Frances Verter.* 68, 129, 25-G1 (1988)
CO($J = 2 \rightarrow 1$) Study of Molecular Clouds in the Southwest Arm of M31. *Marc L. Kutner, Frances Verter, & Lee J Rickard.* 365, 195, 208-E11 (1990)
VESTRAND, W. T. Solar Neutron Emissivity during the Large Flare on 1982 June 3. *E. L. Chupp, H. Debrunner, E. Flückiger, D. J. Forrest, F. Golliez, G. Kanbach, W. T. Vestrand, J. Cooper, & G. Share.* 318, 913, 91-A1 (1987)
Gamma-Ray Observations of Cygnus X-1 and Cygnus X-3 Using a Coded-Aperture Telescope. *M. L. McConnell, D. J. Forrest, A. Owens, P. P. Dunphy, W. T. Vestrand, & E. L. Chupp.* 343, 317, 122-B2 (1989)
VESTRAND, W. THOMAS. The Directivity of High-Energy Emission from Solar Flares. II. *Solar Maximum Mission* Observations. *W. Thomas Vestrand, D. J. Forrest, E. L. Chupp, E. Rieger, & G. H. Share.* 322, 1010, 151-A7 (1987)
A New Gamma-Ray Diagnostic for Energetic Ion Distributions: The Compton Tail on the Neutron Capture Line. *W. Thomas Vestrand.* 352, 353, 54-C6 (1990)
VETTOLANI, G. On the Dependence of Far-Infrared and Radio Continuum Luminosities on Hubble Type in Spiral Galaxies. *G. Gavazzi, A. Cocito, & G. Vettolani.* 305, L15, 74-B3 (1986)
A Red Envelope around a Dominant Elliptical Galaxy in an X-Ray Selected Poor Cluster. *D. Maccagni, B. Garilli, I. M. Gioia, T. Maccacaro, G. Vettolani, & A. Wolter.* 334, L1, 161-A6 (1988)
VIALLEFOND, F. The Infrared Structure of M33. *W. Rice, F. Boulanger, F. Viallefond, B. T. Soifer, & W. L. Freedman.* 358, 418, 128-G1 (1990)
VICTOR, G. A. Effective Recombination Coefficients of Neutral Carbon and Singly Ionized Nitrogen. *Vladimir Escalante & G. A. Victor.* 73, 513, 25-D7 (1990)
VIDAL-MADJAR, A. *IUE* Observations of Hydrogen and Deuterium in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, W. B. Landsman, J. L. Linsky, A. Vidal-Madjar, & C. Gry.* 315, 675, 48-A10 (1987)
The Location of the Ca II Ions in the Beta Pictoris Disk. *L. M. Hobbs, A. M. Lagrange-Henri, R. Ferlet, A. Vidal-Madjar, & D. E. Welty.* 334, L41, 161-E1 (1988)
IUE Observations of the Interstellar Medium toward β Geminorum. *J. Murthy, J. B. Wofford, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 336, 949, 14-C6 (1989)
A New Method for the Resolution of the Radiative Transfer Equation in Three-dimensional Geometry. I. Theory. *L. Ben Jaffel & A. Vidal-Madjar.* 350, 801, 36-A1 (1990)
Studies of H I and D I in the Local Interstellar Medium. *J. Murthy, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 356, 223, 101-G5 (1990)
VIEGAS-ALDROVANDI, S. M. Integrated Models for the Narrow Emission-Line Region of Active Galactic Nuclei. *S. M. Viegas-Aldrovandi & R. B. Gruenwald.* 324, 683, 10-G3 (1988)
Are the Narrow-Line Regions of Active Galactic Nuclei Optically Thick? *S. M. Viegas-Aldrovandi.* 330, L9, 96-D1 (1988)
The Continuum Emission from Planetary Nebulae. *S. M. Viegas-Aldrovandi.* 331, 523, 112-C1 (1988)
A Guideline to the Interpretation of the Narrow Emission-Line Spectra of Active Galactic Nuclei. *S. M. Viegas-Aldrovandi & M. Contini.* 339, 689, 60-D1 (1989)
Narrow Emission-Line Profiles of Active Galactic Nuclei. *M. Contini & S. M. Viegas-Aldrovandi.* 343, 78, 119-A8 (1989)
Continuum Radiation from Active Galactic Nuclei. *M. Contini & S. M. Viegas-Aldrovandi.* 350, 125, 26-E8 (1990)
The LINERs Revisited. *S. M. Viegas-Aldrovandi & R. B. Gruenwald.* 360, 474, 152-C1 (1990)
VIEGAS-ALDROVANDI, SUELI M. Mystery Spot in Supernova 1987A: Reflection or Fluorescence by an Interstellar Cloud? *James E. Felten, Eli Dwek, & Sueli M. Viegas-Aldrovandi.* 340, 943, 80-B2 (1989)
VIEIRA, GLADYS L. Discovery of New Isolated T Tauri Stars. *Ramiro de la Reza, Carlos A. O. Torres, Germano Quast, Bruno V. Castilho, & Gladys L. Vieira.* 343, L61, 132-D1 (1989)
VIETRI, MARIO. The Statistics of Gravitational Lensing. III. Astrophysical Consequences of Quasar Lensing. *Jeremiah P. Ostriker & Mario Vietri.* 300, 68, 1-F4 (1986)
On Stellar Streaming Motions in Triaxial Objects: The Case of the Galactic Center. *Mario Vietri.* 306, 48, 81-F4 (1986)
The Triaxial Bulge of the Sa Galaxy NGC 4845. *Ortwin E. Gerhard, Mario Vietri, & Stephen M. Kent.* 345, L33, 157-C12 (1989)
VIGNATO, A. II Zw 1305.4+2941 at $z = 0.24$: Another Rich, Red, Compact Cluster. *David C. Koo, Richard G. Kron, D. Nanni, D. Trevese, & A. Vignato.* 333, 586, 146-D8 (1988)
VIGROUX, L. Surface Photometry of Shell Galaxies. *B. P. Fort, J.-L. Prieur, D. Carter, S. J. Meatheringham, & L. Vigroux.* 306, 110, 82-D9 (1986)
A Deep Optical Study of the Field of 1E 0630+178. *G. F. Bignami, P. A. Caraveo, J. A. Paul, L. Salotti, & L. Vigroux.* 319, 358, 97-A1 (1987)
VILAS, FAITH. Structure of Scintillations in Neptune's Occultation Shadow. *W. B. Hubbard, Emmanuel Lellouch, Bruno Sicardy, André Brahic, Faith Vilas, Patrice Bouchet, Robert A. McLaren, & C. Perrier.* 325, 490, 24-E6 (1988)
VILCHEZ, J. M. A Remarkable Feature in the Giant Extragalactic H II Region NGC 5471. *Hector O. Castañeda, J. M. Vilchez, & Marcus V. F. Copetti.* 365, 164, 208-B9 (1990)
VILHU, O. *EXOSAT* and *IUE* Observations of Contact Binaries. *O. Vilhu & J. Heise.* 311, 937, 158-B5 (1986)
Spectroscopy of the Rapidly Rotating K Star HD 36705. *O. Vilhu, B. Gustafsson, & B. Edvardsson.* 320, 850, 119-B5 (1987)
VILHU, OSMI. Chromospheric-Coronal Activity at Saturated Levels. *Osmi Vilhu & Frederick M. Walter.* 321, 958, 135-A8 (1987)
Simultaneous *EXOSAT* and VLA Observations of the Contact Binaries VW Cephei and XY Leonis: Quiescent Emission and a Flare on VW Cephei. *Osmi Vilhu, Jean-Pierre Caillault, & John Heise.* 330, 922, 102-E12 (1988)
VILLA, G. Hard X-Ray Observations of Cygnus X-1 with the MISO Telescope. *F. Perotti, A. Della Ventura, G. Villa, L. Bassani, R. C. Butler, G. Di Cocco, R. E. Baker, A. J. Dean, & C. G. Hanson.* 300, 297, 4-C12 (1986)

A Broad-Band Contemporaneous Study of the Seyfert Galaxy NGC 4151. *L. Bassani, R. C. Butler, G. Di Cocco, A. Della Ventura, F. Perotti, G. Villa, R. E. Baker, A. J. Dean, & T. J. Lee.* 311, 623, 154-F1 (1986)

VILLUMSEN, J. V. The Dominant Local Instabilities in an Einstein–de Sitter Universe. *O. M. Blaes, P. M. Goldreich, & J. V. Villumsen.* 361, 331, 162-C4 (1990)

VILLUMSEN, JENS V. Velocity Fields around Rich Clusters of Galaxies. *Jens V. Villumsen & Marc Davis.* 308, 499, 114-D1 (1986)

Double Inflation: A Possible Resolution of the Large-Scale Structure Problem. *Michael S. Turner, Jens V. Villumsen, Nicola Vittorio, Joseph Silk, & Roman Juszkiewicz.* 323, 423, 159-C1 (1987)

VILLUMSEN, JENS VERNER. The Blue Stragglers of Omega Centauri. *G. S. Da Costa, John Norris, & Jens Verner Villumsen.* 308, 743, 117-B2 (1986)

Cosmological Parameters from the *IRAS* Galaxy Sample. *Jens Verner Villumsen & Michael A. Strauss.* 322, 37, 138-D1 (1987)

A New Hierarchical Particle-Mesh Code for Very Large Scale Cosmological *N*-Body Simulations. *Jens Verner Villumsen.* 71, 407, 41-B1 (1989)

VIO, ROBERTO. The Optical Variability of the Quasar 3C 446. *Cesare Barbieri, Roberto Vio, Enrico Cappellaro, & Massimo Turatto.* 359, 63, 134-G1 (1990)

VIOTTI, R. First Unambiguous X-Ray Detection of R Aquarii. *R. Viotti, L. Piro, M. Friedjung, & A. Cassatella.* 319, L7, 100-A10 (1987)

The C IV Doublet Ratio Intensity Effect in Symbiotic Stars. *A. G. Michalitsianos, M. Kafatos, R. P. Fahey, R. Viotti, A. Cassatella, & A. Altamore.* 331, 477, 111-F1 (1988)

VIOTTI, ROBERTO. *IUE* Observations of Z Andromedae: Spectral Variations during Quiescence and a Physical Model. *Telmo Fernández-Castro, Angelo Cassatella, Alvaro Giménez, & Roberto Viotti.* 324, 1016, 14-F5 (1988)

The Ultraviolet Spectrum of η Carinae. *Roberto Viotti, Lucio Rossi, Angelo Cassatella, Aldo Altamore, & Giovanni Battista Baratta.* 71, 983, 49-F5 (1989)

VISCUSO, PAUL J. Observations of the 157.7 Micron [C II] Emission from the Galactic H II Regions W3 and W51. *Gary Melnick, Gordon J. Stacey, Paul J. Viscuso, & Charles E. Fuller.* 303, 638, 49-E1 (1986)

CO Cooling Rates: Revised Calculations. *Paul J. Viscuso & David F. Chernoff.* 327, 364, 51-A5 (1988)

VISHNIAC, E. T. Cosmic String Shocks and Microwave Spectral Distortions. *G. A. Ponce & E. T. Vishniac.* 332, 57, 123-F4 (1988)

VISHNIAC, ETHAN T. Generation of Microwave Background Fluctuations from Nonlinear Perturbations at the Era of Galaxy Formation. *Jeremiah P. Ostriker & Ethan T. Vishniac.* 306, L51, 93-F1 (1986)

The Effect of Spherical Voids on the Microwave Background Radiation. *Keith L. Thompson & Ethan T. Vishniac.* 313, 517, 22-D9 (1987)

The Growth of Linear Perturbations of Adiabatic Shock Waves. *Dongsu Ryu & Ethan T. Vishniac.* 313, 820, 25-F8 (1987)

Were the Lyman-α Clouds Formed from Shocks? *Ethan T. Vishniac & Gary S. Bust.* 319, 14, 93-B7 (1987)

Reionization and Small-Scale Fluctuations in the Microwave Background. *Ethan T. Vishniac.* 322, 597, 146-C13 (1987)

A Linear Stability Analysis for Wind-driven Bubbles. *Dongsu Ryu & Ethan T. Vishniac.* 331, 350, 110-B1 (1988)

The Evolution of the Central Black Hole in an Active Galactic Nucleus. I. Evolution with a Constant Mass Influx. *Seok Jae Park & Ethan T. Vishniac.* 332, 135, 124-E5 (1988)

An Axisymmetric, Nonstationary Model of the Central Engine in an Active Galactic Nucleus. I. Black Hole Electrodynamics. *Seok Jae Park & Ethan T. Vishniac.* 337, 78, 18-A7 (1989)

On the Stability of Decelerating Shocks. *Ethan T. Vishniac & Dongsu Ryu.* 337, 917, 30-C6 (1989)

Evolution of the Intergalactic Medium in a Cold Dark Matter–dominated Universe. *Wei-Hwan Chiang, Dongsu Ryu, & Ethan T. Vishniac.* 339, 603, 59-D1 (1989)

The Gravitational Instability of Collisionless Particles in a Cosmological Self-similar Shell. *Jai-chan Hwang, Ethan T. Vishniac, & Paul R. Shapiro.* 346, 12, 166-C1 (1989)

A Self-consistent Model of Mass and Angular Momentum Transport in Accretion Disks. *Ethan T. Vishniac & Patrick Diamond.* 347, 435, 187-D11 (1989)

An Axisymmetric, Nonstationary Model of the Central Engine in an Active Galactic Nucleus. II. Accretion Disk Electrodynamics. *Seok Jae Park & Ethan T. Vishniac.* 347, 684, 191-F9 (1989)

Analyzing Cosmological Perturbations Using the Covariant Approach. *Jai-chan Hwang & Ethan T. Vishniac.* 353, 1, 62-B1 (1990)

The Evolution of the Central Black Hole in an Active Galactic Nucleus. II. Evolution with an Exponentially Decreasing Mass Influx. *Seok Jae Park & Ethan T. Vishniac.* 353, 103, 63-D1 (1990)

A Model for the Distribution of the Intergalactic Medium. *Dongsu Ryu, Ethan T. Vishniac, & Wei-Hwan Chiang.* 354, 389, 81-C1 (1990)

The Growth Rate of a Dipole Disturbance in an Einstein–de Sitter Universe. *Ethan T. Vishniac.* 359, 1, 134-B1 (1990)

Dynamo Action by Internal Waves in Accretion Disks. *Ethan T. Vishniac, Liping Jin, & Patrick Diamond.* 365, 648, 216-C8 (1990)

VISHWANATH, P. R. A Possible Very High Energy Gamma-Ray Burst from Hercules X-1. *P. R. Vishwanath, P. N. Bhat, P. V. Ramanamurthy, & B. V. Sreekantan.* 342, 489, 106-F11 (1989)

VISSER, B. MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

VISVANATHAN, N. The Structure of the Small Magellanic Cloud. *D. S. Mathewson, V. L. Ford, & N. Visvanathan.* 301, 664, 22-G11 (1986)

The Dwarf Star Content of Elliptical and Lenticular Galaxies. *D. Carter, N. Visvanathan, & A. J. Pickles.* 311, 637, 154-G1 (1986)

Absorption Features from the Accretion Column in E1405−451. *D. T. Wickramasinghe, I. R. Tuohy, & N. Visvanathan.* 318, 326, 82-D8 (1987)

The Structure of the Small Magellanic Cloud. II. *D. S. Mathewson, V. L. Ford, & N. Visvanathan.* 333, 617, 146-G1 (1988)

The Zero Point of the Cepheid Period-Luminosity Relation in the 1.05 Micron Wave Band. *N. Visvanathan.* 346, 629, 175-C3 (1989)

Getting to the Bottom of the Lagoon: Dust, Magnetism, and Star Formation. *Marshall L. McCall, Michael G. Richer, & N. Visvanathan.* 357, 502, 118-G1 (1990)

The Stellar Content of Central Dominant Galaxies. I. CCD Surface Photometry. *Glen Mackie, N. Visvanathan, & D. Carter.* 73, 637, 26-D13 (1990)

VITELLO, PETER A. J. Line-driven Winds from Accretion Disks. I. Effects of the Ionization Structure. *Peter A. J. Vitello & Isaac Shlosman.* 327, 680, 56-B4 (1988)

VITTONE, A. The Rotation Period and Inclination Angle of T Tauri. *W. Herbst, J. F. Booth, P. F. Chugainov, G. V. Zajtseva, W. Barksdale, E. Covino, L. Terranegra, A. Vittone, & F. Vrba.* 310, L71, 145-A13 (1986)

VITTORIO, NICOLA. The Dynamical Evolution of Clusters of Galaxies. *Alfonso Cavaliere, Paolo Santangelo, Giuseppe Tarquini, & Nicola Vittorio.* 305, 651, 76-A7 (1986)

Hot Spots in the Microwave Sky. *Nicola Vittorio & Roman Juszkiewicz.* 314, L29, 39-A9 (1987)

The Large-Scale Peculiar Velocity Field in Flat Models of the Universe. *Nicola Vittorio & Michael S. Turner.* 316, 475, 57-C1 (1987)

Does Lower Ω Allow a Resolution of the Large-Scale Structure Problem? *Joseph Silk & Nicola Vittorio.* 317, 564, 72-C8 (1987)

Double Inflation: A Possible Resolution of the Large-Scale Structure Problem. *Michael S. Turner, Jens V. Villumsen, Nicola Vittorio, Joseph Silk, & Roman Juszkiewicz.* 323, 423, 159-C1 (1987)

Cold Dark Matter Dominated, Inflationary Universe with $\Omega_0 < 1$ and $n < 1$. *Nicola Vittorio, Sabino Matarrese, & Francesco Lucchin.* 328, 69, 62-F9 (1988)

Scale-Invariant Clustering and Primordial Biasing. *Francesco Lucchin, Sabino Matarrese, & Nicola Vittorio.* 330, L21, 96-E1 (1988)

On the Large-Scale Anisotropy of the Cosmic Microwave Background. *Roberto Scarmella & Nicola Vittorio.* 331, L53, 121-A10 (1988)

Data Analysis and Monte Carlo Simulation of a Cosmic Background Radiation Anisotropy Experiment. *Nicola Vittorio, Paolo de Bernardis, Silvia Masi, & Roberto Scaramella.* 341, 163, 86-A1 (1989)

Local Gravity and Large-Scale Structure. *Roman Juszkiewicz, Nicola Vittorio, & Rosemary F. G. Wyse.* 349, 408, 20-C11 (1990)

Constraints on the Amplitude of Primordial Density Fluctuations from the Large-Scale Cosmic Microwave Background Temperature Distribution. *Roberto Scaramella & Nicola Vittorio.* 353, 372, 68-F6 (1990)

VLADILO, G. Na I Interstellar Absorption in the Direction of Two LMC Supergiants in the Field of SN 1987A. *P. Molaro, G. Vladilo, G. Avila, & S. D'Odorico.* 339, L63, 66-C7 (1989)

Mg II Observed in the Local Interstellar Medium: The Local Cloud. *R. Génova, P. Molaro, G. Vladilo, & J. E. Beckman.* 355, 150, 88-G2 (1990)

VLADILO, GIOVANNI. Million Degree Gas in the Galactic Halo and the Large Magellanic Cloud. II. The Line of Sight to SN 1987A. *Max Pettini, Raylee Stathakis, Sandro D'Odorico, Paolo Molaro, & Giovanni Vladilo.* 340, 256, 70-C1 (1989)

VLAHOS, L. Electron Cyclotron Harmonic Wave Acceleration. *H. Karimabadi, C. R. Menyuk, P. Sprangle, & L. Vlahos.* 316, 462, 55-B2 (1987)

VLAHOS, LOUKAS. Numerical Studies of Particle Acceleration at Turbulent, Oblique Shocks with an Application to Prompt Ion Acceleration during Solar Flares. *Robert B. Decker & Loukas Vlahos.* 306, 710, 92-C10 (1986)

Evolution of the Axial Electron Cyclotron Maser Instability, with Applications to Solar Microwave Spikes. *Loukas Vlahos & Phillip Sprangle.* 322, 463, 143-A10 (1987)

VÖLK, HEINRICH J. Maximum Energy of Cosmic-Ray Particles Accelerated by Supernova Remnant Shocks in Stellar Wind Cavities. *Heinrich J. Völk & Peter L. Biermann.* 333, L65, 152-D6 (1988)

VÖLKENING, J. Iron Isotope Anomalies. *J. Völkening & D. A. Papanastassiou.* 347, L43, 189-E10 (1989)

Zinc Isotope Anomalies. *J. Völkening & D. A. Papanastassiou.* 358, L29, 127-D1 (1990)

VOELS, STEPHEN A. Photospheres of Hot Stars. II. An Analysis of Zeta Puppis. *Bruce Bohannan, David C. Abbott, Stephen A. Voels, & D. G. Hummer.* 308, 728, 117-A1 (1986)

High-Resolution Sounding Rocket Observations of Interstellar H_2 Lines toward δ Scorpii. *Theodore P. Snow, William E. McClintock, & Stephen A. Voels.* 325, 402, 23-E9 (1988)

Failure of Continuum Methods for Determining the Effective Temperature of Hot Stars. *D. G. Hummer, David C. Abbott, Stephen A. Voels, & Bruce Bohannan.* 328, 704, 70-G1 (1988)

Photospheres of Hot Stars. III. Luminosity Effects at Spectral Type O9.5. *Stephen A. Voels, Bruce Bohannan, David C. Abbott, & D. G. Hummer.* 340, 1073, 81-F1 (1989)

Photospheres of Hot Stars. IV. Spectral Type O4. *Bruce Bohannan, Stephen A. Voels, David G. Hummer, & David C. Abbott.* 365, 729, 217-C13 (1990)

VOGEL, P. Electron Capture and β-Decay in Presupernova Stars. *M. B. Aufderheide, G. E. Brown, T. T. S. Kuo, D. B. Stout, & P. Vogel.* 362, 241, 172-B9 (1990)

VOGEL, S. N. The Dispersal of Dense Protostellar Material: NH_3 Hot Cores and Outflows in Sagittarius B2. *S. N. Vogel, R. Genzel, & Patrick Palmer.* 316, 243, 52-F3 (1987)

Giant Molecular Clouds in M31. *S. N. Vogel, F. Boulanger, & R. Ball.* 321, L145, 137-D8 (1987)

Millimeter Continuum Observations of a Massive Protostellar Core in Sagittarius B2. *J. E. Carlstrom & S. N. Vogel.* 337, 408, 22-D3 (1989)

High-Resolution CO Observations of Young Low-Mass Stars. *S. Terebey, S. N. Vogel, & P. C. Myers.* 340, 472, 73-B5 (1989)

VOGELEY, M. S. Dust in QSO Absorption-Line Systems. *J. P. Ostriker, M. S. Vogeley, & D. G. York.* 364, 405, 201-A5 (1990)

VOGELEY, MICHAEL. The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott, Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton.* 340, 625, 76-C1 (1989)

VOGES, W. *EXOSAT* Observations of the 35 Day Cycle of Hercules X-1: Evidence for Neutron Star Precession. *J. Trümper, P. Kahabka, H. Ögelman, W. Pietsch, & W. Voges.* 300, L63, 13-E1 (1986)

Deterministic Chaos in Accreting Systems: Analysis of the X-Ray Variability of Herculis X-1. *W. Voges, H. Atmanspacher, & H. Scheingraber.* 320, 794, 118-D10 (1987)

VOGT, N. Evidence for Hibernation from a Statistical Analysis of Nova Eruption Amplitudes. *N. Vogt.* 356, 609, 107-G1 (1990)

VOGT, STEVEN S. Doppler Images of Rotating Stars Using Maximum Entropy Image Reconstruction. *Steven S. Vogt, G. Donald Penrod, & Artie P. Hatzes.* 321, 496, 127-E5 (1987)

Doppler Imaging of Abundance Features on Ap Stars: The Si II Distribution on γ^2 Arietis. *Artie P. Hatzes, G. Donald Penrod, & Steven S. Vogt.* 341, 456, 89-E6 (1989)

VOIT, G. MARK. Broad, Variable Absorption Lines in the Seyfert Galaxy NGC 3516: Probing the Structure of the Emssion-Line Regions. *G. Mark Voit, J. Michael Shull, & Mitchell C. Begelman.* 316, 573, 58-C5 (1987)

Rapid Variability of P Cygni Lines in Massive X-Ray Binaries. *Timothy R. Kallman, Richard McCray, & G. Mark Voit.* 317, 746, 74-B12 (1987)

X-Ray–induced Stellar Mass Loss near Active Galactic Nuclei. *G. Mark Voit & J. Michael Shull.* 331, 197, 108-C1 (1988)

Star-forming Instabilities of a Decelerating Plane-parallel Slab of Finite Thickness. *G. Mark Voit.* 331, 343, 110-A8 (1988)

Self-irradiated Cooling Condensations: The Source of the Optical Line Emission from Cooling Flows. *G. Mark Voit & Megan Donahue.* 360, L15, 149-C7 (1990)

VOLK, KEVIN. On the Contribution of Interstellar Extinction to the 10 Micron Dust Feature in OH/IR Stars. *Kevin Volk & Sun Kwok.* 315, 654, 47-G1 (1987)

Spectral Evolution of Asymptotic Giant Branch Stars. *Kevin Volk & Sun Kwok.* 331, 435, 111-B1 (1988)

Evolution of Proto–Planetary Nebulae. *Kevin Volk & Sun Kwok.* 342, 345, 105-B3 (1989)

On the Formation of Carbon Stars. *Greg L. Bryan, Kevin Volk, & Sun Kwok.* 365, 301, 210-B7 (1990)

VOLK, KEVIN M. The High-Latitude F Supergiant IRAS 18095+2704: A Proto–Planetary Nebula. *Bruce J. Hrivnak, Sun Kwok, & Kevin M. Volk.* 331, 832, 118-A11 (1988)

A 21 Micron Emission Feature in Four Proto–Planetary Nebulae. *Sun Kwok, Kevin M. Volk, & Bruce J. Hrivnak.* 345, L51, 157-E5 (1989)

A Study of Several F and G Supergiant-like Stars with Infrared Excesses as Candidates for Proto–Planetary Nebulae. *Bruce J. Hrivnak, Sun Kwok, & Kevin M. Volk.* 346, 265, 169-D5 (1989)

VON BALLMOOS, P. Centaurus A Observation at MeV–Gamma-Ray Energies. *P. von Ballmoos, R. Diehl, & V. Schönfelder.* 312, 134, 2-D11 (1987)

Map of the Galactic Center Region in the 1.8 MeV ^{26}Al Gamma-Ray Line. *P. von Ballmoos, R. Diehl, & V. Schönfelder.* 318, 654, 88-B1 (1987)

Search for Gamma-Ray Continuum Emission at MeV Energies from the Galactic Center Region. *V. Schönfelder, P. von Ballmoos, & R. Diehl.* 335, 748, 180-G5 (1988)

Observation of the 0.511 MeV Annihilation Line from the Inner Galaxy with the FIGARO II Experiment. *M. Niel, P. von Ballmoos, I. Malet, P. Mandrou, E. Costa, E. Massaro, G. Matt, M. Salvati, B. Parlier, B. Agrinier, J. L. Masnou, G. Gerardi, T. Mineo, B. Sacco, & L. Scarsi.* 356, L21, 103-D1 (1990)

MeV to TeV Gamma-Ray Observations of PSR 1957+20. *C. Brink, O. C. de Jager, B. C. Raubenheimer, H. I. Nel, A. R. North, D. J. van der Walt, G. van Urk, B. Visser, R. Buccheri, C. M. Carollo, L. Scarsi, V. Schönfelder, M. Varendorf, & P. von Ballmoos.* 364, L37, 205-D5 (1990)

VON ROSENVINGE, T. T. Two Classes of Solar Energetic Particle Events Associated with Impulsive and Long-Duration Soft X-Ray Flares. *H. V. Cane, R. E. McGuire, & T. T. von Rosenvinge.* 301, 448, 18-F9 (1986)

The Composition of Solar Energetic Particles. *R. E. McGuire, T. T. von Rosenvinge, & F. B. McDonald.* 301, 938, 26-A3 (1986)

The Heavy-Ion Compositional Signature in ^{3}He-rich Solar Particle Events. *G. M. Mason, D. V. Reames, B. Klecker, D. Hovestadt, & T. T. von Rosenvinge.* 303, 849, 51-G1 (1986)

Solar Neon Abundances from Gamma-Ray Spectroscopy and ^{3}He-rich Particle Events. *D. V. Reames, R. Ramaty, & T. T. von Rosenvinge.* 332, L87, 137-E1 (1988)

The Charge State of the Anomalous Cosmic-Ray Component. *F. B. McDonald, N. Lal, J. S. Perko, T. T. von Rosenvinge, & W. R. Webber.* 333, L109, 153-A1 (1988)

Solar Flare Nuclear Gamma Rays and Interplanetary Proton Events. *E. W. Cliver, D. J. Forrest, H. V. Cane, D. V. Reames, R. E. McGuire, T. T. von Rosenvinge, S. R. Kane, & R. J. MacDowall.* 343, 953, 131-A1 (1989)

Energetic Particle Abundances in Solar Electron Events. *D. V. Reames, H. V. Cane, & T. T. von Rosenvinge.* 357, 259, 114-C6 (1990)

VON RUDLOFF, I. R. Thermal Instabilities in Low-Mass Subgiants? *I. R. Von Rudloff, Don A. VandenBerg, & F. D. A. Hartwick.* 324, 840, 12-E11 (1988)

VRBA, F. The Rotation Period and Inclination Angle of T Tauri. *W. Herbst, J. F. Booth, P. F. Chugainov, G. V. Zajtseva, W. Barksdale, E. Covino, L. Terranegra, A. Vittone, & F. Vrba.* 310, L71, 145-A13 (1986)

X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, N. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

VRBA, F. J. Further Evidence for Rotational Modulation of the Light from T Tauri Stars. *F. J. Vrba, A. E. Rydgren, P. F. Chugainov, N. I. Shakovskaya, & D. S. Zak.* 306, 199, 83-D10 (1986)

The Lynds 204 Complex: Magnetic Field Controlled Evolution? *W. H. McCutcheon, F. J. Vrba, R. L. Dickman, & D. P. Clemens.* 309, 619, 128-A11 (1986)

Shock-Front Compression of the Magnetic Field in the Canis Major R1 Star Formation Region. *F. J. Vrba, R. Baierlein, & W. Herbst.* 317, 207, 66-C4 (1987)

VRBA, FREDERICK. Infrared Photometry and Spectroscopy of Supernova 1986g in NGC 5128–Centaurus A. *Jay A. Frogel, Brooke Gregory, Kimiaki Kawara, Dave Laney, M. M. Phillips, Don Terndrup, Frederick Vrba, & Albert E. Whitford.* 315, L129, 49-E11 (1987)

VRBA, FREDERICK J. The Magnetic Evolution of the Taurus Molecular Clouds. I. Large-Scale Properties. *Mark H. Heyer, Frederick J. Vrba, Ronald L. Snell, F. P. Schloerb, Stephen E. Strom, Paul F. Goldsmith, & Karen M. Strom.* 321, 855, 133-G9 (1987)

OTS 1809+314 and the Gamma-Ray Burst GB 790325b. *Dieter Hartmann, Richard W. Pogge, Kevin Hurley, Frederick J. Vrba, & Mark C. Jennings.* 336, 889, 13-E6 (1989)

VREUX, JEAN-MARIE. Spectroscopic Studies of Wolf-Rayet Stars. VI. Optical Spectrophotometry of Near-Infrared Emission Lines in Some Galactic Stars. *Peter S. Conti, Philip Massey, & Jean-Marie Vreux.* 354, 359, 78-E2 (1990)

VRTILEK, J. M. The Rotational Spectrum of the C_3H Radical. *C. A. Gottlieb, E. W. Gottlieb, P. Thaddeus, & J. M. Vrtilek.* 303, 446, 46-A4 (1986)

Laboratory and Astronomical Spectroscopy of C_3H_2, the First Interstellar Organic Ring. *J. M. Vrtilek, C. A. Gottlieb, & P. Thaddeus.* 314, 716, 37-D8 (1987)

The Radio Spectrum of Cyclopropene. *J. M. Vrtilek, C. A. Gottlieb, T. J. LePage, & P. Thaddeus.* 316, 826, 61-B4 (1987)

Astronomical and Laboratory Detection of the SiC Radical. *J. Cernicharo, C. A. Gottlieb, M. Guélin, P. Thaddeus, & J. M. Vrtilek.* 341, L25, 91-C4 (1989)

Laboratory Measurement of the Rotational Spectrum of SiCC. *C. A. Gottlieb, J. M. Vrtilek, & P. Thaddeus.* 343, L29, 125-D9 (1989)

Rotational Spectra of Carbon 13 and Vibrationally Excited SiC. *R. Mollaaghababa, C. A. Gottlieb, J. M. Vrtilek, & P. Thaddeus.* 352, L21, 55-C6 (1990)

Laboratory Detection of Propadienylidene, H_2CCC. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, T. C. Killian, & P. Thaddeus.* 364, L53, 205-E13 (1990)

Laboratory Detection of a Second Carbon Chain Carbene: Butatrienylidene, H_2CCCC. *T. C. Killian, J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, & P. Thaddeus.* 365, L89, 219-F11 (1990)

VRTILEK, S. D. Spectral Variability of Cygnus X-2: Structure in the Circumsource Material. *S. D. Vrtilek, S. M. Kahn, J. E. Grindlay, D. J. Helfand, & F. D. Seward.* 307, 698, 104-E9 (1986)

X-Ray Emission Lines from Three Galactic Bulge Sources. *S. D. Vrtilek, D. J. Helfand, J. P. Halpern, S. M. Kahn, & F. D. Seward.* 308, 644, 116-A10 (1986)

X-Ray Spectral Models of Galactic Bulge Sources: The Emission-Line Factor. *S. D. Vrtilek, J. H. Swank, & T. R. Kallman.* 326, 186, 34-B6 (1988)

Long-Term Temporal Variability of Cygnus X-2. *S. D. Vrtilek, J. H. Swank, R. L. Kelley, & S. M. Kahn.* 329, 276, 78-B1 (1988)

Soft X-Ray Emission Lines from Low-Mass X-Ray Binaries. I. Collision-dominated Models. *T. R. Kallman, S. D. Vrtilek, & S. M. Kahn.* 345, 498, 155-C8 (1989)

VUCETICH, H. Introduction of Short-Range Effects in the Oppenheimer-Volkoff Equation. *M. Membrado, A. F. Pacheco, & H. Vucetich.* 348, 212, 3-E11 (1990)

WAAK, J. A. Superluminal Motion toward a Stationary Knot in the Radio Core of the Quasar 3C 395. *R. S. Simon, J. Hall, K. J. Johnston, J. H. Spencer, J. A. Waak, & R. L. Mutel.* 326, L5, 38-A8 (1988)

WACHTER, KENNETH W. Soft X-Ray Variability and the Covering Fraction of Active Galactic Nuclei. *Kenneth W. Wachter, Michael A. Strauss, & Alexei V. Filippenko.* 330, 91, 91-A9 (1988)

Dust Obscuration by an Evolving Galaxy Population. *Joan Najita, Joseph Silk, & Kenneth W. Wachter.* 348, 383, 7-D1 (1990)

WACKER, S. W. Discovery of Optical Circular Polarization in Lambda Andromedae. *J. C. Kemp, G. D. Henson, D. J. Kraus, M. H. Dunaway, D. S. Hall, L. J. Boyd, R. M. Genet, E. F. Guinan, S. W. Wacker, & G. P. McCook.* 317, L29, 71-C2 (1987)

WADA, HIROYUKI. The α-Effect Generated by Random Alfvén Waves in a Stratified Atmosphere and Particle Acceleration. *Tomikazu Namikawa, Hiromitsu Hamabata, & Hiroyuki Wada.* 323, 414, 157-F3 (1987)

WADA, S. High Spectral Resolution Observations of HD 44179 at 3.2–3.7 Microns. *A. T. Tokunaga, T. Nagata, K. Sellgren, R. G. Smith, T. Onaka, Y. Nakada, A. Sakata, & S. Wada.* 328, 709, 70-G6 (1988)

Quenched Carbonaceous Composite. III. Comparison to the 3.29 Micron Interstellar Emission Feature. *A. Sakata, S. Wada, T. Onaka, & A. T. Tokunaga.* 353, 543, 70-F5 (1990)

WADA, SETSUKO. Infrared Spectrum of Quenched Carbonaceous Composite (QCC). II. A New Identification of the 7.7 and 8.6 Micron Unidentified Infrared Emission Bands. *Akira Sakata, Setsuko Wada, Takashi Onaka, & Alan T. Tokunaga.* 320, L63, 114-E9 (1987)

WADDELL, P. Detection of the Lensing Galaxy in PG 1115+080. *C. A. Christian, D. Crabtree, & P. Waddell.* 312, 45, 1-D10 (1987)

WADDINGTON, C. J. Cosmic-Ray Energy Spectra between 10 and Several Hundred GeV per Atomic Mass Unit for Elements from $_{18}$Ar to $_{28}$Ni: Results from *HEAO 3. W. R. Binns, T. L. Garrard, M. H. Israel, Michael D. Jones, M. P. Kamionkowski, J. Klarmann, E. C. Stone, & C. J. Waddington.* 324, 1106, 15-F3 (1988)

Abundances of Ultraheavy Elements in the Cosmic Radiation: Results from *HEAO 3. W. R. Binns, T. L. Garrard, P. S. Gibner, M. H. Israel, M. P. Kertzman, J. Klarmann, B. J. Newport, E. C. Stone, & C. J. Waddington.* 346, 997, 179-E1 (1989)

WADE, R. The Broad-Line Region at the Center of the Galaxy. *T. R. Geballe, R. Wade, K. Krisciunas, I. Gatley, & M. C. Bird.* 320, 562, 115-F12 (1987)

Ionization State in and Reddening to the Center of the Galaxy. *R. Wade, T. R. Geballe, K. Krisciunas, I. Gatley, & M. C. Bird.* 320, 570, 115-G7 (1987)

Ratios of Molecular Hydrogen Line Intensities in Shocked Gas: Evidence for Cooling Zones. *P. W. J. L. Brand, A. Moorhouse, M. G. Burton, T. R. Geballe, M. Bird, & R. Wade.* 334, L103, 169-F1 (1988)

WADE, RICHARD. Near-Infrared Spectra of Seyfert Nuclei. I. The Reddening Problem. *Martin J. Ward, Thomas Geballe, Malcolm*

Smith, Richard Wade, & Peredur Williams. 316, 138, 51-D13 (1987)

WADE, RICHARD A. A Spectroscopic Study of the Cataclysmic Binary Star SU Ursae Majoris. *John R. Thorstensen, Richard A. Wade, & J. B. Oke.* 309, 721, 129-B9 (1986)

The Radial Velocity Curve and Peculiar TiO Distribution of the Red Secondary Star in Z Chamaeleontis. *Richard A. Wade & Keith Horne.* 324, 411, 5-F7 (1988)

IUE Observations of the Dwarf Nova BV Centauri. *G. Williger, Graham Berriman, Richard A. Wade, & B. J. M. Hassall.* 333, 277, 141-B7 (1988)

A Test of Synthetic Accretion Disk Spectra Using Ultraviolet Flux Distributions of Nova-like Variables. *Richard A. Wade.* 335, 394, 175-A5 (1988)

Eclipse Studies of the Dwarf Nova OY Carinae in Quiescence. *Janet H. Wood, Keith Horne, Graham Berriman, & Richard A. Wade.* 341, 974, 97-C1 (1989)

A Study of Extreme-Ultraviolet Emission from Cataclysmic Variables. *Ronald S. Polidan, Christopher W. Mauche, & Richard A. Wade.* 356, 211, 101-F5 (1990)

WADEHRA, J. M. The Hydrogen Molecular Ion in an Arbitrary Homogeneous Magnetic Field. *D. R. Brighman & J. M. Wadehra.* 317, 865, 75-D14 (1987)

WADIAK, E. J. High-Resolution VLA Observations of the W3(OH) Methanol Masers. *K. M. Menten, K. J. Johnston, E. J. Wadiak, C. M. Walmsley, & T. L. Wilson.* 331, L41, 114-D5 (1988)

WADIAK, E. JAMES. Formaldehyde Observations of Giant Molecular Clouds. *E. James Wadiak, R. T. Rood, & T. L. Wilson.* 324, 931, 13-F6 (1988)

Observations of the ^{13}C Isomers of Cyanoacetylene: Implications for Carbon Isotope Studies in the Milky Way. *Jeffrey G. Mangum, Robert T. Rood, E. James Wadiak, & T. L. Wilson.* 334, 182, 156-C9 (1988)

Observations of the Formaldehyde Emission in Orion-KL: Abundances, Distribution, and Kinematics of the Dense Gas in the Orion Molecular Ridge. *Jeffrey G. Mangum, Alwyn Wootten, Robert B. Loren, & E. James Wadiak.* 348, 542, 9-D3 (1990)

WADIAK, JAMES E. Northern Dwarf and Low Surface Brightness Galaxies. I. The Arecibo Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Christopher Magri, & James E. Wadiak.* 72, 245, 5-D1 (1990)

WAGA, IOAV. Inhomogeneous Cosmological Models: New Exact Solutions with Dust, Isotropic Radiation, and Electromagnetic Field. *Nazira Tomimura & Ioav Waga.* 317, 52, 64-E2 (1987)

WAGH, S. M. Revival of the Penrose Process for Astrophysical Applications: Erratum. *S. M. Wagh, S. V. Dhurandhar, & N. Dadhich.* 301, 1018, 26-G8 (1986) (Orig. paper in 290, 12, 23-B3 (1985))

High Efficiency of the Penrose Process of Energy Extraction from Rotating Black Holes Immersed in Electromagnetic Fields. *S. Parthasarathy, S. M. Wagh, S. V. Dhurandhar, & N. Dadhich.* 307, 38, 95-D2 (1986)

WAGH, SANJAY M. TeV Gamma-Ray Production in Accreting Black Hole Systems. *Patrick Slane & Sanjay M. Wagh.* 364, 198, 196-E1 (1990)

WAGNER, A. F. Oxygen Chemistry of Shocked Interstellar Clouds. I. Rate Constants for Thermal and Nonthermal Internal Energy Distributions. *A. F. Wagner & M. M. Graff.* 317, 423, 68-E11 (1987)

WAGNER, JEREMY. On the Apparent Velocity of Integrated Sunlight. I. 1983–1985. *Drake Deming, Fred Espenak, Donald E. Jennings, James W. Brault, & Jeremy Wagner.* 316, 771, 60-E4 (1987)

WAGNER, R. MARK. The Binary System of SS 433. I. Further Constraints Imposed by Observations of the Optical Continuum Spectrum. *R. Mark Wagner.* 308, 152, 109-F6 (1986)

Temporal Variability of Comet IRAS-Araki-Alcock 1983d: The May 10 Event. *Barry L. Lutz & R. Mark Wagner.* 308, 993, 120-A1 (1986)

CBS 78: A Second Extremely Rare DBZ Degenerate Star with Accreted Calcium. *Edward M. Sion, Harry L. Shipman, R. Mark Wagner, James Liebert, & Sumner G. Starrfield.* 308, L67, 120-G2 (1986)

Ground-based Constraints on the H_2O^+/CO^+ Abundance Ratio and Dust Impact Rate in Comet P/Giacobini-Zinner: Comparison with the *ICE* Spacecraft Results. *R. Mark Wagner, Barry L. Lutz, & S. Wyckoff.* 322, 544, 143-G9 (1987)

Hot Subluminous Stars and Blue Objects in the Case Low-Dispersion Northern Sky Survey. I. *R. Mark Wagner, Edward M. Sion, James Liebert, & Sumner G. Starrfield.* 328, 213, 64-C8 (1988)

1343.4+2640: A Close Quasar Pair. *David Crampton, A. P. Cowley, P. Hickson, E. Kindl, R. Mark Wagner, J. Anthony Tyson, & Craig Gullixson.* 330, 184, 92-A9 (1988)

The Outer R Aquarii Nebula: Comparison of 6 Centimeter Radio Continuum and Balmer Line Emission. *J. M. Hollis, R. J. Oliversen, & R. Mark Wagner.* 337, 795, 28-G4 (1989)

Near-Infrared CCD Photometry of Cygnus X-3. *R. Mark Wagner, T. J. Kreidl, S. J. Bus, & Wayne Williams.* 346, 971, 179-C1 (1989)

Symmetrical Jet Action in the R Aquarii Binary System. *J. M. Hollis, R. Mark Wagner, & R. J. Oliversen.* 351, L17, 43-C6 (1990)

Ultraviolet and Optical Spectroscopy of NGC 5548 and the Nature of the Broad-Line Region. *Bradley M. Peterson, Gail A. Reichert, Kirk T. Korista, & R. Mark Wagner.* 352, 68, 51-A1 (1990)

Anomalous Molecular Abundances and the Depletion of NH_2 in Comet P/Giacobini-Zinner. *John E. Beaver, R. Mark Wagner, David G. Schleicher, & Barry L. Lutz.* 360, 696, 154-G1 (1990)

Abundances in the Hot DZ Star CBS 127: How Efficient Is Hydrogen Screening? *Edward M. Sion, Gordon L. Hammond, R. Mark Wagner, Sumner G. Starrfield, & James Liebert.* 362, 691, 179-C11 (1990)

WAGONER, ROBERT V. Spectral Flux from Low-Density Photospheres: Numerical Results. *Stephen Hershkowitz, Eric Linder, & Robert V. Wagoner.* 301, 220, 16-C14 (1986)

Spectral Flux from Low-Density Photospheres: Approximate Results. *Stephen Hershkowitz, Eric Linder, & Robert V. Wagoner.* 303, 800, 51-C7 (1986)

Amplification and Polarization of Supernovae by Gravitational Lensing. *P. Schneider & Robert V. Wagoner.* 314, 154, 29-F2 (1987)

Spectral Flux from Low-Density Photospheres: Low-Temperature Results. *Stephen Hershkowitz & Robert V. Wagoner.* 322, 967, 150-D11 (1987)

Gravitational Lensing Statistics of Amplified Supernovae. *Eric V. Linder, P. Schneider, & Robert V. Wagoner.* 324, 786, 12-A5 (1988)

Determining the Properties of Accretion-Gap Neutron Stars. *Włodzimierz Kluźniak, Peter Michelson, & Robert V. Wagoner.* 358, 538, 130-C1 (1990)

WAHLQUIST, H. D. A Search for Sinusoidal Gravitational Radiation in the Period Range 30–2000 Seconds. *J. W. Armstrong, F. B. Estabrook, & H. D. Wahlquist.* 318, 536, 86-F8 (1987)

WAINSCOAT, R. J. A Spectroscopic Determination of the Velocity Dispersion in the Galactic Bulge. *K. C. Freeman, G. de Vaucouleurs, A. de Vaucouleurs, & R. J. Wainscoat.* 325, 563, 26-F4 (1988)

The Optical and Near-Infrared Distribution of Light in the Edge-on Galaxy IC 2531. *R. J. Wainscoat, K. C. Freeman, & A. R. Hyland.* 337, 163, 19-C1 (1989)

Near-Infrared Surface Photometry of Three Early-Type, Edge-on Spiral Galaxies: NGC 4594, NGC 7123, and NGC 7814. *R. J. Wainscoat, A. R. Hyland, & K. C. Freeman.* 348, 85, 2-B1 (1990)

WAKAMATSU, KEN-ICHI. Surface Photometry of Dwarf Elliptical Galaxies in the Virgo Cluster. *Shin-ichi Ichikawa, Ken-ichi Wakamatsu, & Sadanori Okamura.* 60, 475, 6-G10 (1986)

Surface Photometry of Dwarf Elliptical Galaxies in the Virgo Cluster: Erratum. *Shin-ichi Ichikawa, Ken-ichi Wakamatsu, & Sadanori Okamura.* 62, 253, 34-E9 (1986) (Orig. paper in 60, 475, 6-G10 (1986))

A Seyfert Nucleus of a New Ring Galaxy in Sextans. *Ken-ichi Wakamatsu & Mitsugu T. Nishida.* 315, L23, 45-B12 (1987)

Dual Emission-Line Clouds in the Nuclei of the Interacting Pair Arp 90. *Ken-ichi Wakamatsu & Mitsugu T. Nishida.* 325, 596, 27-B1 (1988)

Dual Emission-Line Clouds in the Nuclei of the Interacting Pair Arp 90: Addendum. *Ken-ichi Wakamatsu & Mitsugu T. Nishida.* 330, 518, 96-A12 (1988) (Orig. paper in 325, 596, 27-B1 (1988))

Surface Photometry of Edge-on Galaxies. VI. NGC 4452 and NGC 4762. *Masaru Hamabe & Ken-ichi Wakamatsu.* 339, 783, 61-E1 (1989)

On the Nature of Hoag-Type Galaxy NGC 6028 and Related Objects. *Ken-ichi Wakamatsu.* 348, 448, 8-B6 (1990)

Surface Photometry of Barred Spiral Galaxies. *Kouji Ohta, Masaru Hamabe, & Ken-ichi Wakamatsu.* 357, 71, 112-A2 (1990)

WALBORN, NOLAN R. An O3 Star in the Small Magellanic Cloud H II Region NGC 346. *Nolan R. Walborn & J. Chris Blades.* 304, L17, 61-B4 (1986)

Ultraviolet and Visual Wavelength Spectroscopy of Gas around Eta Carinae. *Kris Davidson, Reginald J. Dufour, Nolan R. Walborn, & Theodore R. Gull.* 305, 867, 78-D3 (1986)

The Composite Image of Sanduleak −69°202, Candidate Precursor to Supernova 1978A in the Large Magellanic Cloud. *Nolan R. Walborn, Barry M. Lasker, Victoria G. Laidler, & You-Hua Chu.* 321, L41, 129-E4 (1987)

Recent Massive Star Formation in 30 Doradus. *Nolan R. Walborn & J. Chris Blades.* 323, L65, 158-E6 (1987)

WALDRON, W. L. Ionic Charge States of Solar Energetic Particles: Effects of Flare X-Rays. *D. J. Mullan & W. L. Waldron.* 308, L21, 113-G1 (1986)

Velocity Fields in a Low-Latitude Coronal Hole: Results from the *Solar Maximum Mission*. *D. J. Mullan & W. L. Waldron.* 317, 487, 69-C5 (1987)

Magnetohydrodynamic Modeling of Coronal Bright Points. *W. L. Waldron & D. J. Mullan.* 319, 971, 105-E5 (1987)

WALKER, A. R. Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

CCD Photometry of the Large Magellanic Cloud Cluster NGC 1866: Observational Results. *E. Brocato, R. Buonanno, V. Castellani, & A. R. Walker.* 71, 25, 33-D1 (1989)

WALKER, ALISTAIR R. The *V, I* Feinheit Function. *Alistair R. Walker.* 332, L37, 129-E3 (1988)

Planetary Nebulae as Standard Candles. VI. A Test in the Magellanic Clouds. *George H. Jacoby, Alistair R. Walker, & Robin Ciardullo.* 365, 471, 213-G7 (1990)

WALKER, C. E. NGC 253 and a Proposed Sequence for Nuclear Starbursts. *G. H. Rieke, M. J. Lebofsky, & C. E. Walker.* 325, 679, 28-A9 (1988)

WALKER, CHRISTOPHER K. Spectroscopic Evidence for Infall around an Extraordinary IRAS Source in Ophiuchus. *Christopher K. Walker, Charles J. Lada, Erick T. Young, Philip R. Maloney, & Bruce A. Wilking.* 309, L47, 125-F9 (1986)

Observations of 1.3 Millimeter Emission from the Centers of Galaxies. *Harley A. Thronson, Jr., Christopher K. Walker, Constance E. Walker, & Philip Maloney.* 318, 645, 88-A4 (1987)

An Unusual Outflow around IRAS 16293−2422. *Christopher K. Walker, Charles J. Lada, Erick T. Young, & Michael Margulis.* 332, 335, 126-G4 (1988)

1.3 Millimeter Continuum Observations of Cold Molecular Cloud Cores. *Christopher K. Walker, Fred C. Adams, & Charles J. Lada.* 349, 515, 21-F7 (1990)

Observations of the Dense Gas in the IRAS 16293−2422 Outflow System. *Christopher K. Walker, John E. Carlstrom, John H. Bieging, Charles J. Lada, & Erick T. Young.* 364, 173, 196-B12 (1990)

WALKER, CONSTANCE E. Observations of 1.3 Millimeter Emission from the Centers of Galaxies. *Harley A. Thronson, Jr., Christopher K. Walker, Constance E. Walker, & Philip Maloney.* 318, 645, 88-A4 (1987)

2 Micron Spectroscopy of Nearby Galaxies and Evidence for a Late-Phase Starburst in NGC 4736. *Constance E. Walker, Marcia J. Lebofsky, & George H. Rieke.* 325, 687, 28-B3 (1988)

WALKER, D. The Dipole Anisotropies of the *IRAS* Galaxies and the Microwave Background Radiation. *A. Yahil, D. Walker, & M. Rowan-Robinson.* 301, L1, 20-A4 (1986)

WALKER, G. A. H. Three Families of Diffuse Interstellar Bands? *J. Krełowski & G. A. H. Walker.* 312, 860, 12-C11 (1987)

Interdependence of the 4430 Å Diffuse Interstellar Band, Polarization, and Ultraviolet Extinction. *J. Krełowski, G. A. H. Walker, G. R. Grieve, & G. M. Hill.* 316, 449, 55-A3 (1987)

Discovery of High-Degree Nonradial Oscillations in Rapidly Rotating δ Scuti Stars? *G. A. H. Walker, S. Yang, & G. G. Fahlman.* 320, L139, 121-E9 (1987)

The Primary Orbit and Absorption Lines of HDE 226868 (Cygnus X-1). *Z. Ninkov, G. A. H. Walker, & S. Yang.* 321, 425, 126-G4 (1987)

The He II λ4686 and Hα Emission Lines of Cygnus X-1. *Z. Ninkov, G. A. H. Walker, & S. Yang.* 321, 438, 127-A3 (1987)

A Search for Substellar Companions to Solar-type Stars. *Bruce Campbell, G. A. H. Walker, & S. Yang.* 331, 902, 118-G1 (1988)

Yellow Giants: A New Class of Radial Velocity Variable? *G. A. H. Walker, S. Yang, Bruce Campbell, & Alan W. Irwin.* 343, L21, 125-D1 (1989)

Rapid Line-Profile Variations of the Be Star ζ Tauri. *S. Yang, G. A. H. Walker, G. M. Hill, & P. Harmanec.* 74, 595, 38-E11 (1990)

WALKER, GORDON A. H. Detection of Radial Velocity Variations in the Rapidly Oscillating Ap Star HR 1217. *Jaymie M. Matthews, William H. Wehlau, Gordon A. H. Walker, & Stephenson Yang.* 324, 1099, 15-E10 (1988)

Rapid Infrared Photometry of Pulsating Ap Stars: A Measurement of Stellar Limb Darkening. *Jaymie M. Matthews, William H. Wehlau, & Gordon A. H. Walker.* 365, L81, 219-E13 (1990)

WALKER, H. J. Optical Spectroscopy of *IRAS* Sources with Infrared Emission Bands. II. IRAS 04324+5106, 06114+1745, 20319+3958, and 22539+5758. *Martin Cohen, B. F. Jones, & H. J. Walker.* 341, 908, 96-D8 (1989)

WALKER, MARK. Accretion-driven Nonthermal Phenomena. *Mark Walker.* 330, L47, 96-G1 (1988)

WALKER, MARK A. Evidence for Superluminal Motion on Kiloparsec Scales in 3C 120. *R. Craig Walker, Mark A. Walker, & John M. Benson.* 335, 668, 179-G4 (1988)

The Dynamical Influence of Radiation in Type 1 X-Ray Bursts. *Mark A. Walker & P. Mészáros.* 346, 844, 177-F9 (1989)

Radiation Shear-Stress Heating in Accretion Flows. *Mark A. Walker.* 348, 668, 11-A1 (1990)

WALKER, R. C. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

The Radio Morphology of 3C 120 on Scales from 0.5 Parsecs to 400 Kiloparsecs. *R. C. Walker, J. M. Benson, & S. C. Unwin.* 316, 546, 58-A5 (1987)

VLBI and MERLIN Observations of 3C 120 at 1.7 GHz: Superluminal Motions beyond 0.″05. *J. M. Benson, R. C. Walker, S. C. Unwin, T. W. B. Muxlow, P. N. Wilkinson, R. S. Booth, G. Pilbratt, & R. S. Simon.* 334, 560, 162-D9 (1988)

WALKER, R. CRAIG. Evidence for Superluminal Motion on Kiloparsec Scales in 3C 120. *R. Craig Walker, Mark A. Walker, & John M. Benson.* 335, 668, 179-G4 (1988)

WALKER, R. N. F. *Ariel 6* Measurements of the Fluxes of Ultra-heavy Cosmic Rays. *P. H. Fowler, R. N. F. Walker, M. R. W. Masheder, R. T. Moses, A. Worley, & A. M. Gay.* 314, 739, 37-F7 (1987)

WALKER, TERRY P. Brown Dwarfs as Dark Galactic Halos. *Fred C. Adams & Terry P. Walker.* 359, 57, 134-F9 (1990)

WALL, W. F. Detection of ^{13}CO $J = 3 \rightarrow 2$ in IC 342: Warm, Clumpy Molecular Gas. *W. F. Wall & D. T. Jaffe.* 361, L45, 168-C1 (1990)

WALLACE, L. Solar Luminosity Variation. V. The Photospheric Lines 1976–1985. *W. Livingston & L. Wallace.* 314, 808, 38-D8 (1987)

The Sun as a Star: On Wavelength Stability. *L. Wallace, Y. R. Huang, & W. Livingston.* 327, 399, 51-D1 (1988)

Resonance Line Transfer Calculations by Doubling Thin Layers. II. The Use of the R_{II} Redistribution Function. *L. Wallace & Roger V. Yelle.* 346, 489, 172-C1 (1989)

WALLACE, LLOYD. Resonance Line Transfer Calculations by Doubling Thin Layers. I. Comparison with Other Techniques. *Roger V. Yelle & Lloyd Wallace.* 346, 481, 172-B3 (1989)

WALLACE, RICHARD K. The Core Helium Flash and Surface Abundance Anomalies. *Robert G. Deupree & Richard K. Wallace.* 317, 724, 74-A4 (1987)

WALLER, W. H. Where Massive Stars Form: Associated Radio H II Regions and CO Clouds in the Northern Milky Way. *W. H. Waller, D. P. Clemens, D. B. Sanders, & N. Z. Scoville.* 314, 397, 32-E4 (1987)

Molecular Clouds and Cloud Cores in the Inner Galaxy. *N. Z. Scoville, Min Su Yun, D. P. Clemens, D. B. Sanders, & W. H. Waller.* 63, 821, 13-G12 (1987)

WALLERSTEIN, GEORGE. Abundances of Carbon, Nitrogen, and Oxygen and Their Isotopes in the Atmospheres of Four SC Stars. *James F. Dominy, George Wallerstein, & Nicholas B. Suntzeff.* 300, 325, 4-E12 (1986)

Visual Absorption Lines in Dark Clouds: Highly Reddened Stars near the Center of the Ophiuchus Molecular Cloud. *Jason A. Cardelli & George Wallerstein.* 302, 492, 33-E11 (1986)

Quantitative Technetium Abundances in the Long-Period Variables ψ Cygni and o Ceti. *James F. Dominy & George Wallerstein.* 310, 371, 136-A12 (1986)

Carbon ($^{12}C/^{13}C$) and Oxygen ($^{16}O/^{17}O$) Isotopic Ratios in Seven Evolved Stars. *James F. Dominy & George Wallerstein.* 317, 810, 74-G11 (1987)

Radial Velocities of Stars with Microwave Maser Emission. III. Semiregular Variables. *George Wallerstein & James F. Dominy.* 326, 292, 35-D2 (1988)

Technetium and Niobium Abundances in Four Stars of Types MS and S. *George Wallerstein & James F. Dominy.* 330, 937, 102-G1 (1988)

Line Identifications in Stars of Spectral Type SC. *George Wallerstein.* 71, 341, 39-E5 (1989)

The Helium Abundance in the Population II Cepheid, W Virginis. *Alex Raga, George Wallerstein, & J. B. Oke.* 347, 1107, 197-C11 (1989)

Line Identifications in the Evolving Star FG Sagittae. *George Wallerstein.* 74, 755, 41-B7 (1990)

WALLINGTON, S. H I Observations of Three *IRAS* Detected Elliptical Galaxies. *D. E. P. Walsh, J. H. van Gorkom, W. E. Bies, N. Katz, G. R. Knapp, & S. Wallington.* 352, 532, 57-F3 (1990)

WALMSLEY, C. M. High-Resolution VLA Observations of the W3(OH) Methanol Masers. *K. M. Menten, K. J. Johnston, E. J. Wadiak, C. M. Walmsley, & T. L. Wilson.* 331, L41, 114-D5 (1988)

An Observational Study of Millimeter-Wave Recombination Lines. *M. A. Gordon & C. M. Walmsley.* 365, 606, 215-F11 (1990)

WALSH, D. E. P. Interstellar Matter in Early-Type Galaxies. III. Radio Emission and Star Formation. *D. E. P. Walsh, G. R. Knapp, J. M. Wrobel, & D.-W. Kim.* 337, 209, 19-G9 (1989)

H I Observations of Three *IRAS* Detected Elliptical Galaxies. *D. E. P. Walsh, J. H. van Gorkom, W. E. Bies, N. Katz, G. R. Knapp, & S. Wallington.* 352, 532, 57-F3 (1990)

WALSH, J. R. The Planetary Nebula NGC 3918. *R. E. S. Clegg, J. P. Harrington, M. J. Barlow, & J. R. Walsh.* 314, 551, 35-E7 (1987)

The Abundance Gradient across the Galaxy NGC 2997. *J. R. Walsh & Jean-René Roy.* 341, 722, 94-C5 (1989)

WALSH, JEREMY R. Nitrogen Abundances in the Amorphous Galaxy NGC 5253. *Jeremy R. Walsh & Jean-René Roy.* 319, L57, 107-C9 (1987)

WALTER, F. M. X-Ray Sources in Regions of Star Formation. II. The Pre–Main-Sequence G Star HDE 283572. *F. M. Walter, A. Brown, J. L. Linsky, A. E. Rydgren, F. Vrba, M. Roth, L. Carrasco, P. F. Chugainov, N. I. Shakovskaya, & C. L. Imhoff.* 314, 297, 31-D2 (1987)

WALTER, FREDERICK M. X-Ray Sources in Regions of Star Formation. I. The Naked T Tauri Stars. *Frederick M. Walter.* 306, 573, 90-G5 (1986)

Chromospheric-Coronal Activity at Saturated Levels. *Osmi Vilhu & Frederick M. Walter.* 321, 958, 135-A8 (1987)

WALTERBOS, RENÉ A. M. The Globular Cluster System of M31. *Rebecca A. W. Elson & René A. M. Walterbos.* 333, 594, 146-E3 (1988)

WALTHER, D. M. Spectroscopy of the 3.4 Micron Emission Feature in Comet Halley. *F. Baas, T. R. Geballe, & D. M. Walther.* 311, L97, 160-F10 (1986)

The Exciting Star in G35.2N. *D. M. Walther, C. Aspin, & I. S. McLean.* 356, 544, 107-A11 (1990)

WALTMAN, E. B. Radio Flux Density Variations of Cygnus X-3. *K. J. Johnston, J. H. Spencer, R. S. Simon, E. B. Waltman, G. G. Pooley, R. E. Spencer, R. W. Swinney, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, D. D. McCarthy, D. N. Matsakis, D. E. Reese, & R. M. Hjellming.* 309, 707, 129-A8 (1986)

Evidence for Refractive Scintillation of Two Extragalactic Sources Seen through the Galactic Disk. *Brian Dennison, R. Fiedler, K. J. Johnston, J. H. Spencer, E. B. Waltman, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 313, 141, 16-E5 (1987)

Daily Observations of Compact Extragalactic Radio Sources at 2695 and 8085 MHz, 1979–1985. *R. L. Fiedler, E. B. Waltman, J. H. Spencer, K. J. Johnston, P. E. Angerhofer, D. R. Florkowski, F. J. Josties, W. J. Klepczynski, D. D. McCarthy, & D. N. Matsakis.* 65, 319, 33-A5 (1987)

The Size of the $z = 0.437$ H I Absorption Region toward the QSO 3C 196. *R. L. Brown, J. J. Broderick, K. J. Johnston, J. M. Benson, K. J. Mitchell, & E. B. Waltman.* 329, 138, 76-E3 (1988)

WALTON, STEPHEN R. Flux-Tube Models of Solar Plages. *Stephen R. Walton.* 312, 909, 12-G7 (1987)

WAMBSGANSS, J. A Microlensing Model for QSO 2237+0305. *J. Wambsganss, B. Paczyński, & N. Katz.* 352, 407, 56-B10 (1990)

Interpretation of the Microlensing Event in QSO 2237+0305. *J. Wambsganss, B. Paczyński, & P. Schneider.* 358, L33, 133-B1 (1990)

WAMBSGANSS, JOACHIM. Gravitational Lensing by a Smoothly Variable Surface Mass Density. *Bohdan Paczyński & Joachim Wambsganss.* 337, 581, 26-C1 (1989)

A Gravitational Lens Explanation for the Arclike Structure in Cl 0500−24. *Joachim Wambsganss, Edmond Giraud, Peter Schneider, & Achim Weiss.* 337, L73, 32-B5 (1989)

WAMPLER, E. JOSEPH. Emission-Line Properties of Optically and Radio-selected Complete Quasar Samples. *J. A. Baldwin, E. Joseph Wampler, & C. Martin Gaskell.* 338, 630, 41-G1 (1989)

Observations of the Nebulosities near SN 1987A. *E. Joseph Wampler, Lifan Wang, Dietrich Baade, Klaus Banse, Sandro D'Odorico, Christian Gouiffes, & Massimo Tarenghi.* 362, L13, 174-B9 (1990)

WAMSTEKER, W. The Behavior of the C IV Emission Line in Active Galactic Nuclei. *W. Wamsteker & L. Colina.* 311, 617, 154-E9 (1986)

The Fading of the Narrow-Line Region in 3C 390.3. *J. Clavel & W. Wamsteker.* 320, L9, 114-A12 (1987)

The Fading of the Narrow-Line Region in 3C 390.3: Erratum. *J. Clavel & W. Wamsteker.* 330, L81, 97-B7 (1988) (Orig. paper in 320, L9, 114-A12 (1987))

Abundances in Intermediate-Velocity Clouds toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 332, L75, 137-D5 (1988)

An Ultraviolet Spectral Atlas of Interstellar Lines toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 334, 308, 157-G1 (1988)

Narrow Ultraviolet Emission Lines from SN 1987A: Evidence for CNO Processing in the Progenitor. *C. Fransson, A. Cassatella, R. Gilmozzi, R. P. Kirshner, N. Panagia, G. Sonneborn, & W. Wamsteker.* 336, 429, 6-E1 (1989)

Hot Dust on the Outskirts of the Broad-Line Region in Fairall 9. *J. Clavel, W. Wamsteker, & I. S. Glass.* 337, 236, 20-C7 (1989)

Interstellar Absorption Lines in the Galaxy NGC 1705. *D. G. York, A. Caulet, P. Rybski, J. Gallagher, J. C. Blades, D. C. Morton, & W. Wamsteker.* 351, 412, 45-B9 (1990)

The Behavior of the C IV Emission Line in Active Galactic Nuclei: Erratum. *W. Wamsteker & L. Colina.* 351, 705, 48-G9 (1990) (Orig. paper in 311, 617, 154-E9 (1986))

Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)

WANDEL, A. On the Ratio of the Infrared-to-Ultraviolet Continuum to the X-Rays in Quasars and Active Galaxies. *R. F. Mushotzky & A. Wandel.* 339, 674, 60-B9 (1989)

WANDEL, AMRI. Observational Determination of the Masses of Active Galactic Nuclei. *Amri Wandel & Richard F. Mushotzky.* 306, L61, 93-F10 (1986)

Distributed Reacceleration of Cosmic Rays. *Amri Wandel, David Eichler, John R. Letaw, Rein Silberberg, & C. H. Tsao.* 316, 676, 59-D13 (1987)

The UV Excess of Quasars: Luminosity Dependence. *Amri Wandel.* 316, L55, 62-B1 (1987)

Accretion-Disk Modeling of the UV Spectrum of Quasars. *Amri Wandel & Vahé Petrosian.* 329, L11, 81-B1 (1988)
Broad-Wing Molecular Lines without Internal Energy Sources. *Leo Blitz, Loris Magnani, & Amri Wandel.* 331, L127, 122-A4 (1988)
WANG, BOQI. Possible Infrared Signature of Decaying Particles. *Boqi Wang & George B. Field.* 345, L9, 157-B1 (1989)
Galaxy Formation by Mock Gravity with Dust? *Boqi Wang & George B. Field.* 346, 3, 166-B3 (1989)
WANG, HAIMIN. Seventy-Five Hours of Coordinated Videomagnetograph Observations. *Haimin Wang, Harold Zirin, Alan Patterson, Guoxiang Ai, & Hongqi Zhang.* 343, 489, 124-B1 (1989)
Microwave Structure of the Quiet Sun at 8.5 GHz. *Dale E. Gary, Harold Zirin, & Haimin Wang.* 355, 321, 90-G6 (1990)
WANG, J. C. L. Self-collimated Electromagnetic Jets from Magnetized Accretion Disks. *R. V. E. Lovelace, J. C. L. Wang, & M. E. Sulkanen.* 315, 504, 46-C1 (1987)
Self-collimated Electromagnetic Jets from Magnetized Accretion Disks: The Even-Symmetry Case. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 355, 38, 87-D12 (1990)
WANG, JOHN C. L. Cyclotron Line Resonant Transfer Through Neutron Star Atmospheres. *John C. L. Wang, Ira M. Wasserman, & Edwin E. Salpeter.* 68, 735, 35-A1 (1988)
Cyclotron Line Features from Neutron Star Atmospheres. *John C. L. Wang, Ira M. Wasserman, & Edwin E. Salpeter.* 338, 343, 37-C2 (1989)
Energetics and Dynamics of Resonant and Nonresonant Scattering in Strong Magnetic Fields. *Don Q. Lamb, John C. L. Wang, & Ira M. Wasserman.* 363, 670, 192-D9 (1990)
WANG, LIFAN. Observations of the Nebulosities near SN 1987A. *E. Joseph Wampler, Lifan Wang, Dietrich Baade, Klaus Banse, Sandro D'Odorico, Christian Gouiffes, & Massimo Tarenghi.* 362, L13, 174-B9 (1990)
WANG, S. X. Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)
WANG, Y.-M. Smearing of a Beaming Pattern by an Isotropic Cloud: An Analysis with Applications to Nonpulsing X-Ray Sources and Cosmic Rays. *Y.-M. Wang & R. Schlickeiser.* 313, 200, 17-B11 (1987)
The Origin of Rigidly Rotating Magnetic Field Patterns on the Sun. *N. R. Sheeley, Jr., A. G. Nash, & Y.-M. Wang.* 319, 481, 98-D5 (1987)
The Quasi-rigid Rotation of Coronal Magnetic Fields. *Y.-M. Wang, N. R. Sheeley, Jr., A. G. Nash, & L. R. Shampine.* 327, 427, 51-F1 (1988)
Evolution of the Sun's Polar Fields during Sunspot Cycle 21: Poleward Surges and Long-Term Behavior. *Y.-M. Wang, A. G. Nash, & N. R. Sheeley, Jr.* 347, 529, 188-E3 (1989)
Solar Wind Speed and Coronal Flux-Tube Expansion. *Y.-M. Wang & N. R. Sheeley, Jr.* 355, 726, 97-E10 (1990)
Magnetic Flux Transport and the Sunspot-Cycle Evolution of Coronal Holes and Their Wind Streams. *Y.-M. Wang & N. R. Sheeley, Jr.* 365, 372, 211-A9 (1990)
WANG, Y-P. The Effect of Gas and Grain Opacity on the Cooling of Brown Dwarfs. *Jonathan I. Lunine, W. B. Hubbard, Adam Burrows, Y-P. Wang, & K. Garlow.* 338, 314, 36-F11 (1989)
WANG, ZHENGZHI. Magnetic Field Stability of Neutron Stars. *Zhengzhi Wang & David Eichler.* 324, 966, 14-B5 (1988)
Magnetic Field Stability of Neutron Stars: Erratum. *Zhengzhi Wang & David Eichler.* 330, 1036, 104-A1 (1988) (Orig. paper in 324, 966, 14-B5 (1988))
WANG, ZHEN-RU. Pulsars, X-Ray Synchrotron Nebulae, and Guest Stars. *Frederick D. Seward & Zhen-Ru Wang.* 332, 199, 125-C7 (1988)
WANG, ZHONG. Energy and Mass Balance in the Three-Phase Interstellar Medium. *Zhong Wang & Lennox L. Cowie.* 335, 168, 172-C5 (1988)
Large-Scale Atomic and Molecular Gas Distributions in Disk Galaxies. I. Model. *Zhong Wang.* 360, 529, 152-G5 (1990)
Large-Scale Atomic and Molecular Gas Distributions in Disk Galaxies. II. A Scaling Law. *Zhong Wang.* 360, 543, 153-A7 (1990)
WANNIER, P. G. Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)
Mass Loss from Giant and Supergiant Stars. *P. G. Wannier & R. Sahai.* 311, 335, 149-F12 (1986)
Abundances in Red Giant Stars: Carbon and Oxygen Isotopes in Carbon-rich Molecular Envelopes. *P. G. Wannier & R. Sahai.* 319, 367, 97-B2 (1987)
Mass Loss from Red Giant Stars. II. Carbon Stars. *P. G. Wannier, R. Sahai, B-G Andersson, & H. R. Johnson.* 358, 251, 125-C1 (1990)
WARD, M. J. X-Ray Observations of *IRAS* Selected Seyfert Galaxies and Obscuration of the Broad-Line Region. *M. J. Ward, C. Done, A. C. Fabian, A. F. Tennant, & R. A. Shafer.* 324, 767, 11-F12 (1988)
Radio Lobes and [O III] Profile Substructure in Seyfert Galaxies. *M. Whittle, A. Pedlar, E. J. A. Meurs, S. W. Unger, D. J. Axon, & M. J. Ward.* 326, 125, 33-D8 (1988)
Hα Emission Lines in High-Redshift Quasars. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 342, 666, 110-G3 (1989)
Hα Emission Lines in High-Redshift Quasars: Erratum. *B. R. Espey, R. F. Carswell, J. A. Bailey, M. G. Smith, & M. J. Ward.* 354, 763, 85-F11 (1990) (Orig. paper in 342, 666, 110-G3 (1989))
WARD, MARTIN. The Continuum of Type 1 Seyfert Galaxies. I. A Single Form Modified by the Effects of Dust. *Martin Ward, Martin Elvis, G. Fabbiano, N. P. Carleton, S. P. Willner, & A. Lawrence.* 315, 74, 40-F12 (1987)
The Continuum of Type 1 Seyfert Galaxies. II. Separating Thermal and Nonthermal Components. *N. P. Carleton, Martin Elvis, G. Fabbiano, S. P. Willner, A. Lawrence, & Martin Ward.* 318, 595, 87-D6 (1987)
Infrared-selected "Warm" Galaxies Observed in X-Rays. *Paul J. Green, Martin Ward, Scott F. Anderson, Bruce Margon, M. H. K. DeGrijp, & George K. Miley.* 339, 93, 51-B14 (1989)
WARD, MARTIN J. Near-Infrared Spectra of Seyfert Nuclei. I. The Reddening Problem. *Martin J. Ward, Thomas Geballe, Malcolm Smith, Richard Wade, & Peredur Williams.* 316, 138, 51-D13 (1987)
Collimated Nuclear Ejection of Radio-Emitting Plasma in the Seyfert Galaxy NGC 4388. *John L. Stone, Jr., Andrew S. Wilson, & Martin J. Ward.* 330, 105, 91-B9 (1988)
Jet Precession in Active Galaxies High-Resolution Emission-Line Imaging of Seyfert Galaxies. I. Observations. *Nico Roos, Christopher A. Haniff, Andrew S. Wilson, & Martin J. Ward.* 334, 104, 155-D1 (1988)
High-Resolution Emission-Line Imaging of Seyfert Galaxies. II. Evidence for Anisotropic Ionizing Radiation. *Andrew S. Wilson, Martin J. Ward, & Christopher A. Haniff.* 334, 121, 155-E4 (1988)
Optically Thin Gas in the Broad-Line Region of Seyfert Galaxies. *Simon L. Morris & Martin J. Ward.* 340, 713, 77-C6 (1989)
WARD, R. A. Stellar Technetium and Niobium Abundances as a Measure of the Lifetime of AGB Stars in the Third Dredge-up Phase. *G. J. Mathews, K. Takahashi, R. A. Ward, & W. M. Howard.* 302, 410, 32-F10 (1986)
Parametric Study of Pulsed Neutron Source Models for the *s*-Process. *W. M. Howard, G. J. Mathews, K. Takahashi, & R. A. Ward.* 309, 633, 128-B12 (1986)
WARD, WILLIAM R. Coratation Torques in the Solar Nebula: The Cutoff Function. *William R. Ward.* 336, 526, 7-F13 (1989)
On the Rapid Formation of Giant Planet Cores. *William R. Ward.* 345, L99, 165-D1 (1989)
Orbital Migration of Protoplanets: The Inertial Limit. *William R. Ward & Kerry Hourigan.* 347, 490, 188-B1 (1989)
WARDLE, J. F. Milliarcsecond Polarization Structure of the Superluminal Quasar 3C 273. *D. H. Roberts, R. I. Kollgaard, L. F. Brown, D. C. Gabuzda, & J. F. Wardle.* 360, 408, 151-D1 (1990)
WARDLE, J. F. C. The Linear Polarization of 3C 345 at Milliarcsecond Resolution. *J. F. C. Wardle, D. H. Roberts, R. I. Potash, & A. E. E. Rogers.* 304, L1, 61-A4 (1986)
Linear Polarization Structure of the BL Lacertae Object OJ 287 at Milliarcsecond Resolution. *D. H. Roberts, D. C. Gabuzda, & J. F. C. Wardle.* 323, 536, 160-E5 (1987)

Kinematic Constraints on Models of the BL Lacertae Object OJ 287 from VLBI Polarization Observations. *T. V. Cawthorne & J. F. C. Wardle.* 332, 696, 131-G5 (1988)

Superluminal Motion in the BL Lacertae Object OJ 287. *D. C. Gabuzda, J. F. C. Wardle, & D. H. Roberts.* 336, L59, 16-F1 (1989)

Linear Polarization Structure of the BL Lacertae Object 0735+178 at Milliarcsecond Resolution. *D. C. Gabuzda, J. F. C. Wardle, & D. H. Roberts.* 338, 743, 43-A10 (1989)

The Milliarcsecond Polarization Structure of Six BL Lacertae Objects. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 347, 701, 192-A5 (1989)

WARDLE, MARK. Oblique Magnetohydrodynamic Shock Waves in Molecular Clouds. *Mark Wardle & B. T. Draine.* 321, 321, 125-F8 (1987)

A Model for the Magnetic Field in the Molecular Disk at the Galactic Center. *Mark Wardle & Arieh Königl.* 362, 120, 170-E11 (1990)

WARNER, B. Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)

WARNER, BRIAN. The Period Distribution and Evolution of Short-Period Cataclysmic Variables. *Brian Warner & Mario Livio.* 322, L95, 152-C14 (1987)

V795 Herculis (PG 1711+336): A New Intermediate Polar in the Period Gap. *Allen W. Shafter, Edward L. Robinson, David Crampton, Brian Warner, & Richard M. Prestage.* 354, 708, 85-B1 (1990)

WARNER, H. E. Laboratory Detection of Protonated Formaldehyde (H_2COH^+). *T. Amano & H. E. Warner.* 342, L99, 117-F10 (1989)

WARNOCK, ARCHIBALD, III. Faint Blue Objects at High Galactic Latitude. V. Palomar Schmidt Field Centered on Selected Area 71. *Peter D. Usher, Kenneth J. Mitchell, & Archibald Warnock III.* 66, 1, 1-A6 (1988)

WARREN-SMITH, R. F. Polarimetry of the NGC 2261/R Monocerotis System and the Faint Jetlike Feature to its Southwest. *R. F. Warren-Smith, P. W. Draper, & S. M. Scarrott.* 315, 500, 46-B11 (1987)

WARWICK, R. S. X-Ray Timing and Spectral Measurements of X Persei. *N. R. Robba & R. S. Warwick.* 346, 469, 172-A1 (1989)

WASSERBURG, G. J. The Presence of ^{146}Sm in the Early Solar System and Implications for Its Nucleosynthesis. *A. Prinzhofer, D. A. Papanastassiou, & G. J. Wasserburg.* 344, L81, 148-D10 (1989)

WASSERMAN, I. Deceleration of Infalling Plasma in the Atmospheres of Accreting Neutron Stars. I. Isothermal Atmospheres. *G. S. Miller, E. E. Salpeter, & I. Wasserman.* 314, 215, 30-D13 (1987)

Polarization of the Binary Radio Pulsar 1913+16: Constraints on Geodetic Precession. *J. M. Cordes, I. Wasserman, & M. Blaskiewicz.* 349, 546, 22-B1 (1990)

WASSERMAN, IRA. On the Stability of the Galactic Magnetic Field in the Presence of a Magnetic Monopole Halo. *David F. Chernoff, Stuart L. Shapiro, & Ira Wasserman.* 304, 799, 65-A1 (1986)

Neutrino-driven Winds from Young, Hot Neutron Stars. *Robert C. Duncan, Stuart L. Shapiro, & Ira Wasserman.* 309, 141, 121-E4 (1986)

The Dynamical Fate of Wide Binaries in the Solar Neighborhood. *Martin D. Weinberg, Stuart L. Shapiro, & Ira Wasserman.* 312, 367, 4-G9 (1987)

Theoretical Implications of Wide Binary Observations. *Ira Wasserman & Martin D. Weinberg.* 312, 390, 5-B4 (1987)

Search for Wide Binaries in the *Yale Bright Star Catalogue*. *Martin D. Weinberg & Ira Wasserman.* 329, 253, 77-G4 (1988)

Physical Implications of the Eclipsing Binary Pulsar. *Ira Wasserman & James M. Cordes.* 333, L91, 152-F8 (1988)

Supernova 1987A and the Emergence of the Hot Neutron Star: A Semianalytic Approach. *David F. Chernoff, Stuart L. Shapiro, & Ira Wasserman.* 337, 814, 29-B1 (1989)

The Deceleration of Infalling Plasma in Magnetized Neutron Star Atmospheres: Nonisothermal Atmospheres. *Guy Miller, Ira Wasserman, & Edwin E. Salpeter.* 346, 405, 171-B4 (1989)

Simulation of Cosmological Voids in $\Lambda > 0$ Friedmann Models. *Hugo Martel & Ira Wasserman.* 348, 1, 1-B1 (1990)

Trompe l'Oeil "Binary" Pulsars. *Robert W. Nelson, Lee S. Finn, & Ira Wasserman.* 348, 226, 3-G1 (1990)

Hierarchical Fragmentation Model for the Evolution of Self-gravitating Clouds. *William I. Newman & Ira Wasserman.* 354, 411, 81-E1 (1990)

WASSERMAN, IRA M. Cyclotron Line Resonant Transfer Through Neutron Star Atmospheres. *John C. L. Wang, Ira M. Wasserman, & Edwin E. Salpeter.* 68, 735, 35-A1 (1988)

Cyclotron Line Features from Neutron Star Atmospheres. *John C. L. Wang, Ira M. Wasserman, & Edwin E. Salpeter.* 338, 343, 37-C2 (1989)

Energetics and Dynamics of Resonant and Nonresonant Scattering in Strong Magnetic Fields. *Don Q. Lamb, John C. L. Wang, & Ira M. Wasserman.* 363, 670, 192-D9 (1990)

WATANABE, J. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)

WATANABE, KAZUYA. Cosmological Observations in an Inhomogeneous Universe. *Kazuya Watanabe & Kenji Tomita.* 355, 1, 87-A12 (1990)

WATANABE, MASAAKI. A Statistical Study of Luminosity Profiles of Galaxies Using Spheroid-Disk Composite Models. *Keiichi Kodaira, Masaaki Watanabe, & Sadanori Okamura.* 62, 703, 40-C13 (1986)

NGC 3928: A Highly Bulge-dominated Compact Spiral Galaxy. *Yoshiaki Taniguchi & Masaaki Watanabe.* 313, 89, 16-A5 (1987)

WATANABE, SEI-ICHIRO. Cooling and Quasi-static Contraction of the Primitive Solar Nebula after Gas Accretion. *Sei-ichiro Watanabe, Yoshitsugu Nakagawa, & Kiyoshi Nakazawa.* 358, 282, 125-E11 (1990)

WATANABE, T. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)

On the Dependence of Solar Flare X-Ray Spectral Line Intensity Ratios of Highly Ionized Sulfur, Calcium, and Iron on Electron Temperature, Differential Emission Measure, and Atomic Physics. *G. A. Doschek, A. Fludra, R. D. Bentley, J. Lang, K. J. H. Phillips, & T. Watanabe.* 358, 665, 131-G3 (1990)

Vacuum Ultraviolet Imagery of the Virgo Cluster Region. II. Total Far-Ultraviolet Flux of Galaxies. *K. Kodaira, T. Watanabe, T. Onaka, & W. Tanaka.* 363, 422, 189-D1 (1990)

WATASE, Y. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

WATERS, BRUCE. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

WATERS, L. B. F. M. Unusual Features of the 1–4 Micron Spectrum of HR 4049. *T. R. Geballe, K. S. Noll, D. C. B. Whittet, & L. B. F. M. Waters.* 340, L29, 75-E9 (1989)

WATSON, D. M. The Interstellar Medium in the Central 1 Kiloparsec of M82. *J. B. Lugten, D. M. Watson, M. K. Crawford, & R. Genzel.* 311, L51, 160-C5 (1986)

Far-Infrared Measurements of N/O in H II Regions: Evidence for Enhanced CN Process Nucleosynthesis in the Inner Galaxy. *D. F.*

Lester, H. L. Dinerstein, M. W. Werner, D. M. Watson, R. Genzel, & J. W. V. Storey. 320, 573, 116-A1 (1987)

WATSON, J. K. G. A Study of C_3HD in Cold Interstellar Clouds. *M. B. Bell, L. W. Avery, H. E. Matthews, P. A. Feldman, J. K. G. Watson, S. C. Madden, & W. M. Irvine.* 326, 924, 43-F2 (1988)

Laboratory Observation of the $2\nu_2$ Band of the H_3^+ Molecular Ion. *W. A. Majewski, P. A. Feldman, & J. K. G. Watson.* 347, L51, 189-F5 (1989)

H_3^+ Fundamental Band in Jupiter's Auroral Zones at High Resolution from 2400 to 2900 Inverse Centimeters. *J.-P. Maillard, P. Drossart, J. K. G. Watson, S. J. Kim, & J. Caldwell.* 363, L37, 193-F1 (1990)

WATSON, WILLIAM D. Circular Polarization of Astrophysical Masers Due to Overlap of Zeeman Components. *Shuji Deguchi & William D. Watson.* 300, L15, 7-B6 (1986)

Astrophysical Masers with Magnetic Fields and Velocity Gradients. *Shuji Deguchi, William D. Watson, & Lonny R. Western.* 302, 108, 29-B10 (1986)

Astrophysical Water Masers in the Presence of Magnetic Fields. *Shuji Deguchi & William D. Watson.* 302, 750, 38-G11 (1986)

Diffraction in Gravitational Lensing for Compact Objects of Low Mass. *Shuji Deguchi & William D. Watson.* 307, 30, 95-C8 (1986)

Electron Scintillation in Gravitationally Lensed Images of Astrophysical Radio Sources. *Shuji Deguchi & William D. Watson.* 315, 440, 45-E4 (1987)

An Analytic Treatment of Gravitational Microlensing for Sources of Finite Size at Large Optical Depths. *Shuji Deguchi & William D. Watson.* 335, 67, 171-A1 (1988)

Multiple, Narrow Lines in the Spectrum of an Astrophysical Maser in a Velocity Gradient. *Gerald E. Nedoluha & William D. Watson.* 335, L19, 177-B11 (1988)

Interacting Masers and the Extreme Brightness of Astrophysical Water Masers. *Shuji Deguchi & William D. Watson.* 340, L17, 75-D11 (1989)

Collisional Pumping of Water Masers by Species of Particles at Different Temperatures. *Nels Anderson & William D. Watson.* 348, L69, 13-C11 (1990)

Linearly Polarized Radiation from Astrophysical Masers Due to Magnetic Fields When the Rate for Stimulated Emission Exceeds the Zeeman Frequency. *Shuji Deguchi & William D. Watson.* 354, 649, 84-D1 (1990)

Linearly Polarized Radiation from Astrophysical Masers Due to Magnetic Fields of Intermediate Strength. *Gerald E. Nedoluha & William D. Watson.* 354, 660, 84-E1 (1990)

Spectra of Circularly Polarized Radiation from Astrophysical OH Masers. *Gerald E. Nedoluha & William D. Watson.* 361, 653, 166-C1 (1990)

Modifications to the Relationship between the Magnetic Field and Weak Zeeman Features in the Spectra of Astrophysical Masers. *Gerald E. Nedoluha & William D. Watson.* 361, L53, 168-C11 (1990)

WATT, GRAEME. Submillimeter Observations of the Sun from the James Clerk Maxwell Telescope. *Charles A. Lindsey, Selwyn Yee, Thomas L. Roellig, Richard Hills, David Brock, William Duncan, Graeme Watt, Adrian Webster, & John T. Jefferies.* 353, L53, 73-C6 (1990)

WATTS, J. W. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

WATTS, PAUL N. Galaxy Formation with Cosmic Strings and Massive Neutrinos. *Edmund Bertschinger & Paul N. Watts.* 328, 23, 62-C4 (1988)

WAYTE, S. R. Structure of the Interstellar Medium in the Magellanic Clouds. *S. R. Wayte.* 355, 473, 94-C7 (1990)

WDOWCZYK, J. Implications of an Extragalactic Origin for the Highest Energy Cosmic Rays. *J. Wdowczyk & A. W. Wolfendale.* 349, 35, 14-D6 (1990)

WDOWIAK, THOMAS J. Insoluble Organic Material of the Orgueil Carbonaceous Chondrite and the Unidentified Infrared Bands. *Thomas J. Wdowiak, Gregory C. Flickinger, & John R. Cronin.* 328, L75, 74-G1 (1988)

Laboratory Experiments on Carbonaceous Material as a Source for the Red Rectangle Visual Emissions. *Thomas J. Wdowiak, Bertram Donn, Joseph A. Nuth, Emmett Chappelle, & Marla Moore.* 336, 838, 12-G8 (1989)

Spectra of Polycyclic Aromatic Hydrocarbon Molecules at Elevated Temperature and the Interstellar Unidentified Infrared Bands. *Gregory C. Flickinger & Thomas J. Wdowiak.* 362, L71, 181-E1 (1990)

WEAST, G. J. X-Ray and Ultraviolet Radiation from Accreting White Dwarfs. IV. Two-Temperature Treatment with Electron Thermal Conduction. *J. N. Imamura, R. H. Durisen, D. Q. Lamb, & G. J. Weast.* 313, 298, 18-B14 (1987)

WEAVER, HAROLD. The Distance to the High-Velocity Clouds: Mass Infall and Galactic Disk Formation. *Antoinette Songaila, Lennox L. Cowie, & Harold Weaver.* 329, 580, 83-A10 (1988)

WEAVER, HAROLD A. Velocity-resolved Observations of Water in Comet Halley. *Harold P. Larson, D. Scott Davis, Michael J. Mumma, & Harold A. Weaver.* 309, L95, 131-F7 (1986)

Airborne Infrared Spectroscopy of Comet Wilson (1986l) and Comparisons with Comet Halley. *Harold P. Larson, Harold A. Weaver, Michael J. Mumma, & Siegfried Drapatz.* 338, 1106, 47-D1 (1989)

WEAVER, T. A. The Evolution of Radiation-dominated Stars. I. Nonrotating Supermassive Stars. *G. M. Fuller, S. E. Woosley, & T. A. Weaver.* 307, 675, 104-C11 (1986)

WEAVER, THOMAS A. Models for Type I Supernova. I. Detonations in White Dwarfs. *S. E. Woosley, Ronald E. Taam, & Thomas A. Weaver.* 301, 601, 22-C3 (1986)

Supernova 1987A in the Large Magellanic Cloud: The Explosion of a $\sim 20\ M_\odot$ Star Which Has Experienced Mass Loss? *S. E. Woosley, P. A. Pinto, P. G. Martin, & Thomas A. Weaver.* 318, 664, 88-B11 (1987)

WEAVER, WM. BRUCE. Anomalous Distribution of Axial Inclinations of T Tauri Stars. *Wm. Bruce Weaver.* 319, L89, 107-E13 (1987)

WEBB, D. F. The Plasma and Magnetic Field Properties of Coronal Loops Observed at High Spatial Resolution. *D. F. Webb, G. D. Holman, J. M. Davis, M. R. Kundu, & R. K. Shevgaonkar.* 315, 716, 48-D11 (1987)

WEBB, G. M. Hydrodynamical Constraints on Cosmic-Ray Acceleration in Relativistic Shocks. *G. M. Webb.* 319, 215, 95-C12 (1987)

Energetic Particle Acceleration in Spherically Symmetric Accretion Flows and Shocks. *G. M. Webb & T. J. Bogdan.* 320, 683, 117-C4 (1987)

Relativistic Transport Theory for Cosmic Rays: Erratum. *G. M. Webb.* 321, 606, 128-G2 (1987) (Orig. paper in 296, 319, 93-D7 (1985))

Cosmic-Ray–modified Stellar Winds. I. Solution Topologies and Singularities. *C. M. Ko & G. M. Webb.* 323, 657, 162-A1 (1987)

Cosmic-Ray–Modified Stellar Winds. II. A Perturbation Approach. *C. M. Ko & G. M. Webb.* 325, 296, 22-D2 (1988)

Cosmic-Ray–Modified Stellar Winds. III. A Numerical Iterative Approach. *C. M. Ko, J. R. Jokipii, & G. M. Webb.* 326, 761, 42-A3 (1988)

Isothermal Magnetostatic Atmospheres. II. Similarity Solutions with Current Proportional to the Magnetic Potential Cubed. *G. M. Webb.* 327, 933, 58-G7 (1988)

Cosmic-Ray Hydrodynamics at Relativistic Shocks. *J. G. Kirk & G. M. Webb.* 331, 336, 110-A1 (1988)

The Diffusion Approximation and Transport Theory for Cosmic Rays in Relativistic Flows. *G. M. Webb.* 340, 1112, 82-B1 (1989)

On Wave Stability in Relativistic Cosmic-Ray Hydrodynamics. *G. M. Webb.* 341, 767, 94-G1 (1989)

On the Stability of a Class of Isothermal, Magnetostatic Atmospheres. *G. M. Webb & C. M. Ko.* 342, 1142, 116-C1 (1989)

Diffusive Shock Acceleration of Energetic Electrons and the Method of Generations. *G. M. Webb & K.-D. Fritz.* 362, 419, 175-F5 (1990)

WEBB, GARY M. Time-dependent Shock Acceleration of Energetic Electrons Including Synchrotron Losses. *Klaus-Dieter Fritz & Gary M. Webb.* 360, 387, 151-B1 (1990)

WEBB, J. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

WEBB, J. K. High-Redshift QSO Absorbing Clouds and the Background Ionizing Source. *R. F. Carswell, J. K. Webb, J. A. Baldwin, & B. Atwood.* 319, 709, 102-F13 (1987)

WEBB, J. R. Multifrequency Observations of the Optically Violent Variable 3C 446. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, A. L. Kinney, I. McHardy, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, A. J. Pica, H. D. Aller, M. F. Aller, P. E. Hodge, J. S. Miller, & S. A. Stephens.* 331, 746, 117-B1 (1988)

Multifrequency Observations of Blazars. III. The Spectral Shape of the Radio to X-Ray Continuum. *L. M. J. Brown, E. I. Robson, W. K. Gear, D. H. Hughes, M. J. Griffin, B. J. Geldzahler, P. R. Schwartz, D. W. Shepherd, J. R. Webb, E. Valtaoja, H. Terasranta, & E. Salonen.* 340, 129, 68-F4 (1989)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

WEBB, JOHN K. The Remarkable Broad Absorption Line QSO 0059−2735 with Extensive Fe II Absorption. *C. Hazard, Richard G. McMahon, John K. Webb, & Donald C. Morton.* 323, 263, 156-A1 (1987)

WEBBER, W. R. Interplanetary Cosmic-Ray Radial and Latitudinal Gradients Derived in 1984 Using *IMP 8*, *Voyager*, and *Pioneer* Data. *W. R. Webber & J. A. Lockwood.* 302, 511, 33-G8 (1986)

A Reexamination of the Cosmic-Ray Helium Spectrum and the $^3He/^4He$ Ratio at High Energies. *W. R. Webber, R. L. Golden, & R. A. Mewaldt.* 312, 178, 2-G13 (1987)

Interplanetary Radial Cosmic-Ray Gradients and Their Implication for a Possible Large Modulation Effect at the Heliospheric Boundary. *W. R. Webber & J. A. Lockwood.* 317, 534, 69-F11 (1987)

The Charge State of the Anomalous Cosmic-Ray Component. *F. B. McDonald, N. Lal, J. S. Perko, T. T. von Rosenvinge, & W. R. Webber.* 333, L109, 153-A1 (1988)

The Abundances of ^{14}N at the Cosmic-Ray Source: A Study Using New Fragmentation Cross Sections. *M. Gupta & W. R. Webber.* 340, 1124, 82-C1 (1989)

A New Calculation of the Cosmic-Ray Antiproton Spectrum in the Galaxy and Heliospheric Modulation Effects on This Spectrum Using a Drift Plus Wavy Current Sheet Model. *W. R. Webber & M. S. Potgieter.* 344, 779, 144-A3 (1989)

A New Limit on the Time between the Nucleosynthesis and the Acceleration of Cosmic Rays in Supernova Remnants Using the Co/Ni Ratio. *W. R. Webber & M. Gupta.* 348, 608, 10-B10 (1990)

The Source Charge and Isotopic Abundances of Cosmic Rays with $Z = 9$–16: A Study Using New Fragmentation Cross Sections. *W. R. Webber, A. Soutoul, P. Ferrando, & M. Gupta.* 348, 611, 10-C1 (1990)

A Comparison of Predictions of a Wavy Neutral Sheet Drift Model with Cosmic-Ray Data over a Whole Modulation Cycle: 1976–1987. *W. R. Webber, M. S. Potgieter, & R. A. Burger.* 349, 634, 23-B5 (1990)

Cosmic-Ray Gradient Measurements and Modulation beyond the Inner Solar Wind Termination Shock. *J. J. Quenby, J. A. Lockwood, & W. R. Webber.* 365, 365, 211-A1 (1990)

WEBBINK, R. F. Gravitational Radiation from the Galaxy. *D. Hils, P. L. Bender, & R. F. Webbink.* 360, 75, 146-A6 (1990)

WEBBINK, RONALD F. A Model for the Outbursts of the Recurrent Nova RS Ophiuchi. *Mario Livio, James W. Truran, & Ronald F. Webbink.* 308, 736, 117-A9 (1986)

The Nature of the Recurrent Novae. *Ronald F. Webbink, Mario Livio, James W. Truran, & Marina Orio.* 314, 653, 36-F9 (1987)

Thresholds for Rapid Mass Transfer in Binary System. I. Polytropic Models. *Michael S. Hjellming & Ronald F. Webbink.* 318, 794, 89-E10 (1987)

WEBER, R. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

WEBSTER, ADRIAN. Submillimeter Observations of the Sun from the James Clerk Maxwell Telescope. *Charles A. Lindsey, Selwyn Yee, Thomas L. Roellig, Richard Hills, David Brock, William Duncan, Graeme Watt, Adrian Webster, & John T. Jefferies.* 353, L53, 73-C6 (1990)

WEBSTER, B. L. High-Resolution Imaging and the H-R Diagram of Galactic Bulge Planetary Nebulae. *M. A. Dopita, J. P. Henry, I. R. Tuohy, B. L. Webster, E. H. Roberts, Y.-I. Byun, L. L. Cowie, & A. Songaila.* 365, 640, 216-B10 (1990)

WEBSTER, B. LOUISE. New Evolutionary Relationships for Magellanic Cloud Planetary Nebulae. *Michael A. Dopita, Stephen J. Meatheringham, Peter R. Wood, B. Louise Webster, David H. Morgan, & Holland C. Ford.* 315, L107, 49-D2 (1987)

The Internal Dynamics of the Planetary Nebulae in the Large Magellanic Cloud. *Michael A. Dopita, Stephen J. Meatheringham, B. Louise Webster, & Holland C. Ford.* 327, 639, 55-F2 (1988)

The Kinematics of the Planetary Nebulae in the Large Magellanic Cloud. *Stephen J. Meatheringham, Michael A. Dopita, Holland C. Ford, & B. Louise Webster.* 327, 651, 55-F14 (1988)

WEBSTER, MEDFORD S. Detecting Thermal Neutrinos from Supernovae with DUMAND. *Carlton Pryor, Charles E. Roos, & Medford S. Webster.* 329, 335, 78-G1 (1988)

WEBSTER, RACHEL. Substructure in the Coma Cluster. *Michael Fitchett & Rachel Webster.* 317, 653, 73-C1 (1987)

WEBSTER, RACHEL L. A New Wide-Separation Gravitational Lens Candidate. *Paul C. Hewett, Rachel L. Webster, Margaret E. Harding, Robert J. Jedrzejewski, Craig B. Foltz, Frederic H. Chaffee, Michael J. Irwin, & Olivier Le Fèvre.* 346, L61, 181-B12 (1989)

Gravitational Lensing and Evolution in Quasar Absorption Systems. *Peter A. Thomas & Rachel L. Webster.* 349, 437, 20-F1 (1990)

WEEDMAN, D. W. Radio Observations of Starburst Galaxies. *R. A. Sramek & D. W. Weedman.* 302, 640, 37-E12 (1986)

WEEDMAN, DANIEL W. Isophotal Diameters of Galaxies at High Redshifts. *Daniel W. Weedman & Karen L. Williams.* 318, 585, 87-C10 (1987)

Evidence of an Infrared Luminosity Indicator for Galaxies. *Eric D. Feigelson, Takashi Isobe, & Daniel W. Weedman.* 319, L51, 107-C4 (1987)

WEEKES, T. C. Pulsed TeV Gamma Rays Detected from Hercules X-1 during X-Ray Source Eclipse. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 308, L11, 113-F6 (1986)

Hercules X-1: Pulsed Gamma Rays Detected above 250 GeV. *P. W. Gorham, M. F. Cawley, D. J. Fegan, K. G. Gibbs, S. Kenny, R. C. Lamb, D. F. Liebing, N. A. Porter, V. J. Stenger, & T. C. Weekes.* 309, 114, 121-C4 (1986)

TeV Gamma Rays from Hercules X-1 Pulsed at an Anomalous Frequency. *R. C. Lamb, M. F. Cawley, D. J. Fegan, K. G. Gibbs, P. W. Gorham, A. M. Hillas, D. A. Lewis, N. A. Porter, P. T. Reynolds, & T. C. Weekes.* 328, L13, 66-E1 (1988)

Observation of TeV Gamma Rays from the Crab Nebula Using the Atmospheric Cerenkov Imaging Technique. *T. C. Weekes, M. F. Cawley, D. J. Fegan, K. G. Gibbs, A. M. Hillas, P. W. Kowk, R. C. Lamb, D. A. Lewis, D. Macomb, N. A. Porter, P. T. Reynolds, & G. Vacanti.* 342, 379, 105-D13 (1989)

WEEKS, D. D. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March,*

J. Matthews, R. Morse, D. Reeder, & P. Slane. 328, L9, 66-D10 (1988)

WEFEL, J. P. Cosmic-Ray Propagation in the Galaxy and in the Heliosphere: The Path Length Distribution at Low Energy. *M. Garcia-Munoz, J. A. Simpson, T. G. Guzik, J. P. Wefel, & S. H. Margolis.* 64, 269, 19-F6 (1987)

Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

WEGNER, G. Carbon Pollution in Helium-rich White Dwarf Atmospheres: Time-dependent Calculations of the Dredge-up Process. *C. Pelletier, G. Fontaine, F. Wesemael, G. Michaud, & G. Wegner.* 307, 242, 97-F4 (1986)

The Exotic Helium Variable PG 1346+082. *M. A. Wood, D. E. Winget, R. E. Nather, Frederic V. Hessman, James Liebert, Donald W. Kurtz, F. Wesemael, & G. Wegner.* 313, 757, 25-B1 (1987)

Ultraviolet and Visual Spectroscopy of DB White Dwarfs. *G. Wegner & E. P. Nelan.* 319, 916, 105-A5 (1987)

Discovery of a Possible X-Ray Triple: 4U 1915−05. *J. E. Grindlay, C. D. Bailyn, H. Cohn, P. M. Lugger, J. R. Thorstensen, & G. Wegner.* 334, L25, 161-C9 (1988)

Model Atmosphere Analysis of the DZ White Dwarf K789−37. *D. Koester, G. Wegner, & D. Kilkenny.* 350, 329, 29-B1 (1990)

WEGNER, GARY. Spectroscopy and Photometry of Elliptical Galaxies. I. New Distance Estimator. *Alan Dressler, Donald Lynden-Bell, David Burstein, Roger L. Davies, S. M. Faber, Roberto Terlevich, & Gary Wegner.* 313, 42, 15-D7 (1987)

Spectroscopy and Photometry of Elliptical Galaxies: A Large-Scale Streaming Motion in the Local Universe. *Alan Dressler, S. M. Faber, David Burstein, Roger L. Davies, Donald Lynden-Bell, R. J. Terlevich, & Gary Wegner.* 313, L37, 27-A9 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. II. The Spectroscopic Parameters. *Roger L. Davies, David Burstein, Alan Dressler, S. M. Faber, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 581, 26-B1 (1987)

Spectroscopy and Photometry of Elliptical Galaxies. III. *UBV* Aperture Photometry, CCD Photometry, and Magnitude-related Parameters. *David Burstein, Roger L. Davies, Alan Dressler, S. M. Faber, Remington P. S. Stone, Donald Lynden-Bell, Roberto J. Terlevich, & Gary Wegner.* 64, 601, 26-C7 (1987)

Photometry and Spectroscopy of Elliptical Galaxies. V. Galaxy Streaming toward the New Supergalactic Center. *D. Lynden-Bell, S. M. Faber, David Burstein, Roger L. Davies, Alan Dressler, R. J. Terlevich, & Gary Wegner.* 326, 19, 32-B12 (1988)

Detection of H-Alpha Emission in the Hot White Dwarf G191−B2B. *Neill Reid & Gary Wegner.* 335, 953, 183-B9 (1988)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 69, 763, 12-G7 (1989)

Spectroscopy and Photometry of Elliptical Galaxies. VI. Sample Selection and Data Summary: Erratum. *S. M. Faber, Gary Wegner, David Burstein, Roger L. Davies, Alan Dressler, D. Lynden-Bell, & R. J. Terlevich.* 71, 173, 36-E7 (1989) (Orig. paper in 69, 763, 12-G7 (1989))

WEHINGER, P. A. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

WEHINGER, PETER A. Abundances in Comet Halley at the Time of the Spacecraft Encounters. *Susan Wyckoff, Stephen Tegler, Peter A. Wehinger, Hyron Spinrad, & Michael J. S. Belton.* 325, 927, 30-F9 (1988)

The $^{12}C/^{13}C$ Abundance Ratio in Comet Halley. *Susan Wyckoff, Eric Lindholm, Peter A. Wehinger, Bruce A. Peterson, Jean-Marc Zucconi, & Michel C. Festou.* 339, 488, 56-A6 (1989)

WEHLAU, AMELIA. First Optical Candidate for a Recovered Classical Nova in a Globular Cluster: Nova 1938 in M14. *Michael M. Shara, Anthony F. J. Moffat, Michael Potter, Helen S. Hogg, & Amelia Wehlau.* 311, 796, 156-D9 (1986)

WEHLAU, W. H. Distribution of Chemical Elements over the Surface of the Magnetic Ap Star Theta Aurigae. *V. L. Khokhlova, J. B. Rice, & W. H. Wehlau.* 307, 768, 105-D1 (1986)

Search for HeH^+ in NGC 7027. *J. M. Moorhead, R. P. Lowe, J.-P. Maillard, W. H. Wehlau, & P. F. Bernath.* 326, 899, 43-D3 (1988)

WEHLAU, WILLIAM H. Frequency Analysis of the Rapidly Oscillating Peculiar A Star HD 60435. *Jaymie M. Matthews, Donald W. Kurtz, & William H. Wehlau.* 300, 348, 4-G7 (1986)

The Rich *p*-Mode Spectrum of the Rapidly Oscillating Peculiar A Star HD 60435. *Jaymie M. Matthews, Donald W. Kurtz, & William H. Wehlau.* 313, 782, 25-C12 (1987)

Detection of Radial Velocity Variations in the Rapidly Oscillating Ap Star HR 1217. *Jaymie M. Matthews, William H. Wehlau, Gordon A. H. Walker, & Stephenson Yang.* 324, 1099, 15-E10 (1988)

Rapid Infrared Photometry of Pulsating Ap Stars: A Measurement of Stellar Limb Darkening. *Jaymie M. Matthews, William H. Wehlau, & Gordon A. H. Walker.* 365, L81, 219-E13 (1990)

WEHRLE, ANN E. An Unusual Radio Loop in the Edge-on Seyfert Galaxy NGC 5506. *Ann E. Wehrle & Mark Morris.* 313, L43, 27-B1 (1987)

VLBI Imaging of CTA 102. *Ann E. Wehrle & Marshall Cohen.* 346, L69, 181-C9 (1989)

Detection of Superluminal Motion in the Core-dominated Quasar 0106+013. *Ann E. Wehrle, Marshall H. Cohen, & Stephen C. Unwin.* 351, L1, 43-A7 (1990)

WEILAND, JANET L. Infrared Cirrus and High-Latitude Molecular Clouds. *Janet L. Weiland, Leo Blitz, Eli Dwek, M. G. Hauser, Loris Magnani, & Lee J Rickard.* 306, L101, 94-B6 (1986)

WEILER, K. W. Subluminous, Radio Emitting Type I Supernovae. *N. Panagia, R. A. Sramek, & K. W. Weiler.* 300, L55, 13-D6 (1986)

Radio Supernovae. *K. W. Weiler, R. A. Sramek, N. Panagia, J. M. van der Hulst, & M. Salvati.* 301, 790, 24-C5 (1986)

WEILER, KURT W. Radio Emission from Supernovae. I. One to Twelve Year Old Supernovae. *Kurt W. Weiler, Nino Panagia, Richard A. Sramek, J. M. van der Hulst, Morton S. Roberts, & Linh Nguyen.* 336, 421, 6-D2 (1989)

Improved Estimates of Galactic H II Region Emission Measures and Filling Factors: Low-Frequency VLA Observations near Sharpless 53. *Namir E. Kassim, Kurt W. Weiler, William C. Erickson, & T. L. Wilson.* 338, 152, 34-G9 (1989)

W30 Revealed: Separation and Analysis of Thermal and Nonthermal Emission in a Galactic Complex. *Namir E. Kassim & Kurt W. Weiler.* 360, 184, 147-C10 (1990)

Radio Emission from Supernovae. II. SN 1986J: A Different Kind of Type II. *Kurt W. Weiler, Nino Panagia, & Richard A. Sramek.* 364, 611, 203-F13 (1990)

WEILER, THOMAS J. The Initial Neutrino Events from Supernovae as Evidence for Matter versus Anitmatter. *Alan V. Barnes, Thomas J. Weiler, & Sandip Pakvasa.* 323, L31, 158-C4 (1987)

WEINBERG, D. The Evolution of Red Clump Stars: Theoretical Sequences. *E. Seidel, P. Demarque, & D. Weinberg.* 63, 917, 15-B13 (1987)

WEINBERG, DAVID. The Topology of the Large-Scale Structure of the Universe. *A. J. S. Hamilton, J. Richard Gott III, & David Weinberg.* 309, 1, 120-A9 (1986)

WEINBERG, DAVID H. A Quantitative Approach to the Topology of Large-Scale Structure. *J. Richard Gott III, David H. Weinberg, & Adrian L. Melott.* 319, 1, 93-A7 (1987)

The Topology of Large-Scale Structure. Topology and the Random Phase Hypothesis. *David H. Weinberg, J. Richard Gott III, & Adrian L. Melott.* 321, 2, 122-A8 (1987)

The Topology of Large-Scale Structure. II. Nonlinear Evolution of Gaussian Models. *Adrian L. Melott, David H. Weinberg, & J. Richard Gott III.* 328, 50, 62-E3 (1988)

Superclustering in the Explosion Scenario. *David H. Weinberg, Jeremiah P. Ostriker, & Avishai Dekel.* 336, 9, 1-B9 (1989)

The Topology of Large-Scale Structure. III. Analysis of Observations. *J. Richard Gott III, John Miller, Trinh X. Thuan, Stephen E. Schneider, David H. Weinberg, Charles Gammie, Kevin Polk, Michael Vogeley, Scott Jeffrey, Suketu P. Bhavsar, Adrian L. Melott,*

Riccardo Giovanelli, Martha P. Hayes, R. Brent Tully, & Andrew J. S. Hamilton. 340, 625, 76-C1 (1989)
The Area of Isodensity Contours in Cosmological Models and Galaxy Surveys. *Barbara S. Ryden, Adrian L. Melott, David A. Craig, J. Richard Gott III, David H. Weinberg, Robert J. Scherrer, Suketu P. Bhavsar, & John M. Miller.* 340, 647, 76-E1 (1989)
Superclustering in the Explosion Scenario. II. Prolate Spheroidal Shells from Superconducting Cosmic Strings. *David Borden, Jeremiah P. Ostriker, & David H. Weinberg.* 345, 607, 158-C1 (1989)
Topology of Large-Scale Structure. IV. Topology in Two Dimensions. *Adrian L. Melott, Alexander P. Cohen, Andrew J. S. Hamilton, J. Richard Gott III, & David H. Weinberg.* 345, 618, 158-D1 (1989)
Simulations of Deep Redshift Surveys. *David H. Weinberg & James E. Gunn.* 352, L25, 61-A10 (1990)
Properties of Clusters of Galaxies in the Explosion Scenario. *Michael J. West, David H. Weinberg, & Avishai Dekel.* 353, 329, 68-C1 (1990)
WEINBERG, MARTIN D. Orbital Decay of Satellite Galaxies in Spherical Systems. *Martin D. Weinberg.* 300, 93, 2-A4 (1986)
The Dynamical Fate of Wide Binaries in the Solar Neighborhood. *Martin D. Weinberg, Stuart L. Shapiro, & Ira Wasserman.* 312, 367, 4-G9 (1987)
Theoretical Implications of Wide Binary Observations. *Ira Wasserman & Martin D. Weinberg.* 312, 390, 5-B4 (1987)
Search for Wide Binaries in the *Yale Bright Star Catalogue*. *Martin D. Weinberg & Ira Wasserman.* 329, 253, 77-G4 (1988)
Evolution of Globular Clusters in the Galaxy. *David F. Chernoff & Martin D. Weinberg.* 351, 121, 39-E9 (1990)
WEINER, LARRY D. A Kinematic Determination of the Structure of the Double Ring Planetary Nebula NGC 2392, the Eskimo. *C. R. O'Dell, Larry D. Weiner, & You-Hua Chu.* 362, 226, 172-A3 (1990)
WEINSTEIN, M. An Exact Solution of Haugan's Binary Pulsar Equation of Motion. *M. Weinstein & A. Mor.* 328, L17, 66-E5 (1988)
WEINTRAUB, D. A. Structure of a Possible Circumbinary Disk around T Tauri. *D. A. Weintraub, C. R. Masson, & B. Zuckerman.* 320, 336, 111-F9 (1987)
Tomographic Imaging of HL Tauri. *Steven V. W. Beckwith, Anneila I. Sargent, C. D. Koresko, & D. A. Weintraub.* 343, 393, 123-A4 (1989)
WEINTRAUB, DAVID A. Submillimeter Measurements of T Tauri and FU Orionis Stars. *David A. Weintraub, G. Sandell, & W. D. Duncan.* 340, L69, 83-C10 (1989)
Measurements of Keplerian Rotation of the Gas in the Circumbinary Disk around T Tauri. *David A. Weintraub, C. R. Masson, & B. Zuckerman.* 344, 915, 145-D13 (1989)
A Catalog of Pre–Main-Sequence Emission-Line Stars with *IRAS* Source Associations. *David A. Weintraub.* 74, 575, 38-C1 (1990)
WEIR, NICHOLAS. The Cosmic Submillimeter Background as a Possible Signature of the Initial Burst of Galaxy Formation. *S. Djorgovski & Nicholas Weir.* 351, 343, 44-C1 (1990)
WEISBERG, J. M. Neutral Hydrogen Absorption Observations toward High-Dispersion Measure Pulsars. *T. R. Clifton, D. A. Frail, Shrinivas R. Kulkarni, & J. M. Weisberg.* 333, 332, 141-F7 (1988)
Further Experimental Tests of Relativistic Gravity Using the Binary Pulsar PSR 1913+16. *J. H. Taylor & J. M. Weisberg.* 345, 434, 154-E3 (1989)
Evidence for Geodetic Spin Precession in the Binary Pulsar PSR 1913+16. *J. M. Weisberg, R. W. Romani, & J. H. Taylor.* 347, 1030, 196-C13 (1989)
The Eclipsing Millisecond Pulsar PSR 1957+20. *A. S. Fruchter, G. Berman, G. Bower, M. Convery, W. M. Goss, T. H. Hankins, J. R. Klein, D. J. Nice, M. F. Ryba, D. R. Stinebring, J. H. Taylor, S. E. Thorsett, & J. M. Weisberg.* 351, 642, 48-B3 (1990)
WEISBERG, JOEL M. Arecibo 21 Centimeter Polarimetry of 64 Pulsars: A Guide to Classification. *Joanna M. Rankin, Daniel R. Stinebring, & Joel M. Weisberg.* 346, 869, 178-A10 (1989)
WEISER, HEINZ. Analysis of Coronal H I Lyman-Alpha Measurements in a Polar Region of the Sun Observed in 1979. *George L. Withbroe, John L. Kohl, & Heinz Weiser.* 307, 381, 99-C5 (1986)
WEISS, A. The Effect of Enhanced α-Elements in Helium-burning Population II Stars. *D. Bencivenni, V. Castellani, A. Tornambè, & A. Weiss.* 71, 109, 35-D3 (1989)
WEISS, ACHIM. Light Propagation in Inhomogeneous Universes. *Peter Schneider & Achim Weiss.* 327, 526, 54-D9 (1988)
Light Propagation in Inhomogeneous Universes: The Ray-Shooting Method. *Peter Schneider & Achim Weiss.* 330, 1, 90-A9 (1988)
A Gravitational Lens Explanation for the Arclike Structure in Cl 0500−24. *Joachim Wambsganss, Edmond Giraud, Peter Schneider, & Achim Weiss.* 337, L73, 32-B5 (1989)
The Progenitor of SN 1987A: Uncertain Evolution of a 20 $M_\odot$ Star. *Achim Weiss.* 339, 365, 54-E5 (1989)
WEISS, N. O. Simulation of Large-Scale Flows at the Solar Surface. *G. W. Simon & N. O. Weiss.* 345, 1060, 163-F6 (1989)
WEISS, R. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)
COBE Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)
WEISS, RAINER. Measurements of the Anisotropy of the Cosmic Background Radiation and Diffuse Galactic Emission at Millimeter and Submillimeter Wavelengths. *Mark Halpern, Richard Benford, Stephan Meyer, Dirk Muehlner, & Rainer Weiss.* 332, 596, 130-F12 (1988)
WEISSKOPF, M. C. Accretion onto Neutron Stars with the Presence of a Double Layer. *A. C. Williams, M. C. Weisskopf, R. F. Elsner, W. Darbro, & P. G. Sutherland.* 305, 759, 77-C1 (1986)
Observations of Quasi-periodic Oscillations from GX 5−1 and Cygnus X-2 with the *Einstein* (*HEAO 2*) Observatory. *R. F. Elsner, M. C. Weisskopf, W. Darbro, B. D. Ramsey, A. C. Williams, P. G. Sutherland, & J. E. Grindlay.* 308, 655, 116-B7 (1986)
Coherence Effects on Quasi-periodic Oscillations from Galactic X-Ray Sources. *R. F. Elsner, N. Shibazaki, & M. C. Weisskopf.* 320, 527, 115-C8 (1987)
The Effect of Decay of the Amplitude of Oscillation on Random Process Models for QPO X-Ray Stars. *N. Shibazaki, R. F. Elsner, & M. C. Weisskopf.* 322, 831, 149-A1 (1987)
Astrophysical Implications and Observational Prospects of X-Ray Polarimetry. *P. Mészáros, R. Novick, G. A. Chanan, M. C. Weisskopf, & A. Szentgyörgyi.* 324, 1056, 15-B5 (1988)
The Effect of a Hot, Spherical Scattering Cloud on Quasi-periodic Oscillation Behavior. *R. W. Bussard, M. C. Weisskopf, R. F. Elsner, & N. Shibazaki.* 327, 284, 50-B6 (1988)
Moment Constraints on Physical Models for Quasi-periodic Oscillations from Galactic X-Ray Sources. *R. F. Elsner, N. Shibazaki, & M. C. Weisskopf.* 327, 742, 56-F10 (1988)
Shot Noise Cross-Correlation Functions and Cross Spectra: Implications for Models of QPO X-Ray Sources. *N. Shibazaki, R. F. Elsner, R. W. Bussard, T. Ebisuzaki, & M. C. Weisskopf.* 331, 247, 108-G2 (1988)
WEISTROP, DONNA. Spectra of Galaxies in the Case Low-Dispersion Sky Survey in the Direction of the Bootes Void. *Donna Weistrop & Ronald A. Downes.* 331, 172, 108-A1 (1988)
WELCH, DOUGLAS L. The Distance to M31 from Infrared Photometry of Its Cepheids. *Douglas L. Welch, Christopher W. McAlary, Robert A. McLaren, & Barry F. Madore.* 305, 583, 75-C1 (1986)
Spectroscopy and *JHK* Photometry of Type II Cepheids in the Magellanic Clouds. *Douglas L. Welch.* 317, 672, 73-D6 (1987)
Near-Infrared Observations of Cepheids: The Distance to NGC 300. *Barry F. Madore, Douglas L. Welch, C. W. McAlary, & R. A. McLaren.* 320, 26, 108-C4 (1987)
Distance Moduli and Structure of the Magellanic Clouds from Near-Infrared Photometry of Classical Cepheids. *Douglas L. Welch, Robert A. McLaren, Barry F. Madore, & Christopher W. McAlary.* 321, 162, 124-A7 (1987)
WELCH, W. J. Sub–Arc Second 2 Centimeter Continuum and SiO Spectral Line Observations of R Aquarii. *J. M. Hollis, A. G. Michalitsianos, M. Kafatos, M. C. H. Wright, & W. J. Welch.* 309, L53, 125-G2 (1986)

Comparisons of SiO Maser and Long-Period Variable Positions in the R Aquarii and Omicron Ceti Binary Systems. *J. M. Hollis, M. C. H. Wright, W. J. Welch, P. R. Jewell, H. E. Crull, Jr., M. Kafatos, & A. G. Michalitsianos.* 361, 663, 166-C12 (1990)

WELCH, WILLIAM J. A Cloud Collision Model for Water Maser Excitation. *J. C. Tarter & William J. Welch.* 305, 467, 72-C4 (1986)

Herbig-Haro Objects as Shocked Ambient Cloudlets—High-Resolution Radio Observations of HH 7–11. *Alexander Rudolph & William J. Welch.* 326, L31, 38-C10 (1988)

Dynamical Collapse of the W51 Star-forming Region. *Alexander Rudolph, William J. Welch, Patrick Palmer, & Berengere Dubrulle.* 363, 528, 190-F9 (1990)

WELCH, WM. J. Study of the H42α (86 GHz) Recombination Line in W3(OH). *Wm. J. Welch & J. Marr.* 317, L21, 71-B10 (1987)

WELLINGTON, K. J. Widespread Strong Methanol Masers near H II Regions. *R. P. Norris, J. L. Caswell, F. F. Gardner, & K. J. Wellington.* 321, L159, 137-E8 (1987)

The Parkes-Tidbinbilla Interferometer. *R. P. Norris, M. J. Kesteven, K. J. Wellington, & M. J. Batty.* 67, 85, 11-D1 (1988)

Symmetry of the Radio Emission from Two High-Latitude Supernova Remnants, G296.5+10.0 and G324.7+14.6 (SN 1006). *R. S. Roger, D. K. Milne, M. J. Kesteven, K. J. Wellington, & R. F. Haynes.* 332, 940, 134-F7 (1988)

Milliarcsecond Observations of 12 GHz Methanol Masers. *W. H. McCutcheon, K. J. Wellington, R. P. Norris, J. L. Caswell, M. J. Kesteven, J. E. Reynolds, & R.-S. Peng.* 333, L79, 152-E11 (1988)

WELSH, B. Y. High-Resolution Sodium Absorption-Line Observations of the Local Interstellar Medium. *B. Y. Welsh, P. W. Vedder, & J. V. Vallerga.* 358, 473, 129-D11 (1990)

WELTY, ALAN D. The Distribution of Maser Emission in OH/IR Stars. *Alan D. Welty, John D. Fix, & Robert L. Mutel.* 318, 852, 90-C10 (1987)

Circumstellar Gas Associated with HL Tauri: Evidence for a Remnant Infalling Envelope. *Gary L. Grasdalen, Gregory Sloan, Natalie Stout, Stephen E. Strom, & Alan D. Welty.* 339, L37, 58-D5 (1989)

Further Evidence for Differential Rotation in V1057 Cygni. *Alan D. Welty, Stephen E. Strom, Karen M. Strom, Lee W. Hartmann, Scott J. Kenyon, Gary L. Grasdalen, & John R. Stauffer.* 349, 328, 17-G12 (1990)

WELTY, D. E. On the Nearest Molecular Clouds. II. MBM 12 and 16. *L. M. Hobbs, L. Blitz, B. E. Penprase, L. Magnani, & D. E. Welty.* 327, 356, 50-G10 (1988)

The Location of the Ca II Ions in the Beta Pictoris Disk. *L. M. Hobbs, A. M. Lagrange-Henri, R. Ferlet, A. Vidal-Madjar, & D. E. Welty.* 334, L41, 161-E1 (1988)

Element Abundances at High Redshift. *David M. Meyer, D. E. Welty, & D. G. York.* 343, L37, 132-B1 (1989)

On the Nearest Molecular Clouds. III. MBM 40, 53, 54, and 55. *D. E. Welty, L. M. Hobbs, L. Blitz, & B. E. Penprase.* 346, 232, 169-A8 (1989)

Ionization in Nearby Interstellar Gas. *P. C. Frisch, D. E. Welty, D. G. York, & J. R. Fowler.* 357, 514, 119-A5 (1990)

WELTY, DANIEL E. Numerical Experiments on the Oscillations of a Rotating, Axisymmetric Galaxy. *R. H. Miller, Peter O. Vandervoort, Daniel E. Welty, & B. F. Smith.* 342, 105, 102-C6 (1989)

WENDELL, C. E. Magnetic Field Evolution in White Dwarfs. *C. E. Wendell, H. M. Van Horn, & D. Sargent.* 313, 284, 18-A12 (1987)

A Model for the Bimodal Decay of Neutron Star Magnetic Ffields. *C. E. Wendell.* 333, L95, 152-F12 (1988)

WENDEROTH, ERICH. *BVRI* CCD Photometry of the Globular Cluster NGC 2808. *Gonzalo Alcaino, William Liller, Franklin Alvarado, & Erich Wenderoth.* 72, 693, 12-C9 (1990)

WENK, R. A. Detection of Systematic Gravitational Lens Galaxy Image Alignments: Mapping Dark Matter in Galaxy Clusters. *J. A. Tyson, F. Valdes, & R. A. Wenk.* 349, L1, 19-A7 (1990)

WENTZEL, DONAT G. Solar Activity and the Coupling of g-Mode Oscillations. *Donat G. Wentzel.* 300, 824, 12-B13 (1986)

Solar Oscillations: A Method for Deriving Nonlinear Effects. *Donat G. Wentzel.* 317, 477, 69-B10 (1987)

Solar Oscillations: Generation of a g-Mode by Two p-Modes. *Donat G. Wentzel.* 319, 966, 105-D14 (1987)

Magnetohydrodynamic Wave Conversion and Solar-Wind Acceleration in Coronal Holes. *Donat G. Wentzel.* 336, 1073, 15-F10 (1989)

WENZ, MICHAEL. Optical Manifestations of Mass Outflows from Young Stars: An Atlas of CCD Images of Herbig-Haro Objects. *Karen M. Strom, Stephen E. Strom, Sidney C. Wolff, Jeff Morgan, & Michael Wenz.* 62, 39, 31-D1 (1986)

WENZEL, K.-P. Quiet-Time Properties of Low-Energy (< 10 MeV per Nucleon) Interplanetary Ions during Solar Maximum and Solar Minimum. *I. G. Richardson, D. V. Reames, K.-P. Wenzel, & J. Rodriguez-Pacheco.* 363, L9, 187-B1 (1990)

WERNER, M. C II 158 Micron and O I 63 Micron Observations of NGC 7023: A Model for Its Photodisscoiation Region. *A. Chokshi, A. G. G. M. Tielens, M. Werner, & M. W. Castelaz.* 334, 803, 165-C6 (1988)

WERNER, M. W. Simultaneous Submillimeter and Infrared Observations of Flat-Spectrum Radio Sources. *T. L. Roellig, E. E. Becklin, C. D. Impey, & M. W. Werner.* 304, 646, 63-B4 (1986)

Extreme Limb Profiles of the Sun at Far-Infrared and Submillimeter Wavelengths. *C. Lindsey, E. E. Becklin, F. Q. Orrall, M. W. Werner, J. T. Jefferies, & I. Gatley.* 308, 448, 112-G13 (1986)

Infrared Reflection Nebulae in Orion Molecular Cloud 2. *Yvonne Pendleton, M. W. Werner, R. Capps, & D. Lester.* 311, 360, 150-A13 (1986)

IRAS Surface Brightness Maps of Reflection Nebulae in the Pleiades. *Michael W. Castelaz, K. Sellgren, & M. W. Werner.* 313, 853, 26-B1 (1987)

Far-Infrared Measurements of N/O in H II Regions: Evidence for Enhanced CN Process Nucleosynthesis in the Inner Galaxy. *D. F. Lester, H. L. Dinerstein, M. W. Werner, D. M. Watson, R. Genzel, & J. W. V. Storey.* 320, 573, 116-A1 (1987)

The Polarization of the Far-Infrared Radiation from the Galactic Center. *M. W. Werner, J. A. Davidson, M. Morris, G. Novak, S. R. Platt, & R. H. Hildebrand.* 333, 729, 148-C1 (1988)

Studies of Dust Grain Properties in Infrared Reflection Nebulae. *Y. J. Pendleton, A. G. G. M. Tielens, & M. W. Werner.* 349, 107, 15-C7 (1990)

Far-Infrared Intensity Variations Caused by 5 Minute Oscillations. *C. Lindsey, G. Kopp, E. E. Becklin, T. Roellig, M. W. Werner, J. T. Jefferies, F. Q. Orrall, D. Braun, & D. L. Mickey.* 350, 475, 30-G1 (1990)

The Excitation of 12 Micron Emission from Very Small Particles. *K. Sellgren, L. Luan, & M. W. Werner.* 359, 384, 140-G1 (1990)

The Magnetic Field in the Dust Ring at the Center of the Galaxy. *R. H. Hildebrand, D. P. Gonatas, S. R. Platt, X. D. Wu, J. A. Davidson, M. W. Werner, G. Novak, & M. Morris.* 362, 114, 170-E3 (1990)

High Spatial Resolution Mapping of the Cepheus A Region at 20, 50, and 100 Microns. *H. B. Ellis, Jr., D. F. Lester, P. M. Harvey, M. Joy, C. M. Telesco, R. Decher, & M. W. Werner.* 365, 287, 210-A6 (1990)

Hydrocarbon Emission Features in the Infrared Spectra of Warm Supergiants. *R. H. Buss, Jr., M. Cohen, A. G. G. M. Tielens, M. W. Werner, J. D. Bregman, F. C. Witteborn, D. Rank, & S. A. Sandford.* 365, L23, 212-C6 (1990)

WERNER, MICHAEL. Observations of Fe II (26.0 Microns) in SN 1987A. *Edwin F. Erickson, Michael R. Haas, Sean W. J. Colgan, Steven D. Lord, Michael G. Burton, Jürgen Wolf, David J. Hollenbach, & Michael Werner.* 330, L39, 96-F7 (1988)

WERNER, MICHAEL W. Observations of Infrared Emission from a Fast-moving Knot in Cassiopeia A. *Harriet L. Dinerstein, Daniel F. Lester, David M. Rank, Michael W. Werner, & Diane H. Wooden.* 312, 314, 4-C11 (1987)

IRAS Observations of an Optically Selected Sample of Interacting Galaxies. *Howard A. Bushouse, Susan A. Lamb, & Michael W. Werner.* 335, 74, 171-A8 (1988)

Near-Infrared Imaging of Interacting Galaxies. *Howard A. Bushouse & Michael W. Werner.* 359, 72, 135-A1 (1990)

WERNTZ, C. Solar Flare γ-Ray Line Shapes. *C. Werntz, F. L. Lang, & Y. E. Kim.* 73, 349, 22-E5 (1990)

WESEMAEL, F. DA White Dwarf Effective Temperatures Determined from *IUE* Lyman-Alpha Profiles. *J. B. Holberg, F. Wesemael, & J. Basile.* 306, 629, 91-D7 (1986)

Carbon Pollution in Helium-rich White Dwarf Atmospheres: Time-dependent Calculations of the Dredge-up Process. *C. Pelletier, G. Fontaine, F. Wesemael, G. Michaud, & G. Wegner.* 307, 242, 97-F4 (1986)

Temperatures for Hot and Pulsating DB White Dwarfs Obtained with the *IUE* Observatory. *James Liebert, F. Wesemael, C. J. Hansen, G. Fontaine, Harry L. Shipman, Edward M. Sion, D. E. Winget, & Richard F. Green.* 309, 241, 122-E7 (1986)

The Exotic Helium Variable PG 1346+082. *M. A. Wood, D. E. Winget, R. E. Nather, Frederic V. Hessman, James Liebert, Donald W. Kurtz, F. Wesemael, & G. Wegner.* 313, 757, 25-B1 (1987)

Studies of Hot B Subdwarfs. V. Continuing Investigation of the C, N, and Si Abundance Patterns in the Atmospheres of sdB Stars. *R. Lamontagne, F. Wesemael, & G. Fontaine.* 318, 844, 90-C2 (1987)

The Presence of Helium in Hot DA White Dwarfs: The Role of Radiative Levitation and the Case for Stratified Atmospheres. *S. Vennes, C. Pelletier, G. Fontaine, & F. Wesemael.* 331, 876, 118-E2 (1988)

Studies of Hot B Subdwarfs. VI. Detailed Calculations of Radiative Forces on Metals in the Envelopes and Atmospheres of Hydrogen-rich Subdwarfs. *P. Bergeron, F. Wesemael, G. Michaud, & G. Fontaine.* 332, 964, 135-A7 (1988)

An Explanation for the Peculiar EUV Spectrum of the Hot DA White Dwarf Feige 24. *S. Vennes, P. Chayer, G. Fontaine, & F. Wesemael.* 336, L25, 8-D9 (1989)

Studies of Hot B Subdwarfs. VII. Non–LTE Radiative Acceleration of Helium in the Atmospheres of sdOB Stars. *G. Michaud, P. Bergeron, U. Heber, & F. Wesemael.* 338, 417, 38-B1 (1989)

Determination of the Atmospheric Parameters of the Binary DA White Dwarf L870-2 (EG 11). *P. Bergeron, F. Wesemael, James Liebert, & G. Fontaine.* 345, L91, 165-C5 (1989)

A Compact Planetary Nebula around the Hot White Dwarf EGB 6/PG 0950+139. *James Liebert, Richard Green, Howard E. Bond, J. B. Holberg, F. Wesemael, Thomas A. Fleming, & Kenneth Kidder.* 346, 251, 169-C3 (1989)

Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 351, 271, 41-D2 (1990)

On the Surface Composition of Cool, Hydrogen-Line White Dwarfs: Discovery of Helium in the Atmospheres of Cool DA Stars and Evidence for Convective Mixing. *P. Bergeron, F. Wesemael, G. Fontaine, & James Liebert.* 351, L21, 43-C11 (1990)

Hot Degenerates in the MCT Survey. I. MCT 0130–1937, a New, Color-selected PG 1159 Object: Erratum. *S. Demers, F. Wesemael, M. J. Irwin, G. Fontaine, R. Lamontagne, S. O. Kepler, & J. B. Holberg.* 357, 291, 114-F6 (1990) (Orig. paper in 351, 271, 41-D2 (1990))

Spectroscopic Studies and Atmospheric Parameters of Pulsating DA White Dwarf (ZZ Ceti) Stars. *D. Daou, F. Wesemael, P. Bergeron, G. Fontaine, & J. B. Holberg.* 364, 242, 197-A11 (1990)

Detection of Trace Helium in G104-27, a 26,000 K DA White Dwarf. *J. B. Holberg, K. M. Kidder, & F. Wesemael.* 365, L77, 219-E7 (1990)

WESSOLOWSKI, U. Non–LTE Model Calculations for SN 1987A and the Extragalactic Distance Scale. *W. Schmutz, D. C. Abbott, R. S. Russell, W.-R. Hamann, & U. Wessolowski.* 355, 255, 90-A12 (1990)

WESSOLOWSKI, ULF. Atmospheric Models for Luminous Blue Variables. *Claus Leitherer, Werner Schmutz, David C. Abbott, Wolf-Rainer Hamann, & Ulf Wessolowski.* 346, 919, 178-E8 (1989)

WESSON, PAUL S. The Extragalactic Background Light and a Definitive Resolution of Olbers's Paradox. *Paul S. Wesson, K. Valle, & R. Stabell.* 317, 601, 72-F5 (1987)

A Class of Solutions in General Relativity of Interest for Cosmology and Astrophysics. *Paul S. Wesson.* 336, 58, 1-F10 (1989)

WEST, MICHAEL J. Profiles of Clusters of Galaxies: Cosmological Scenarios versus Observations. *Michael J. West, Avishai Dekel, & Augustus Oemler, Jr.* 316, 1, 50-A8 (1987)

Subclustering in Rich Clusters of Galaxies and Their Environs. *Michael J. West, Augustus Oemler, Jr., & Avishai Dekel.* 327, 1, 47-A7 (1988)

The Formation of Clusters of Galaxies Containing Dark Matter. *Michael J. West & Douglas O. Richstone.* 335, 532, 178-C9 (1988)

Cosmological Alignment of Clusters of Galaxies with Their Surroundings: A Problem for Cold Dark Matter? *Michael J. West, Avishai Dekel, & Augustus Oemler, Jr.* 336, 46, 1-E12 (1989)

Groups of Galaxies and Large-Scale Structure. *Michael J. West.* 344, 535, 141-C1 (1989)

The Radius-Mass Relation for Clusters of Galaxies: Cosmological Scenarios versus Observations. *Michael J. West, Augustus Oemler, Jr., & Avishai Dekel.* 346, 539, 174-C1 (1989)

On the Morphology of Superclusters. *Michael J. West.* 347, 610, 190-G1 (1989)

A Reanalysis of Substructure in Clusters of Galaxies and Their Surroundings. *Michael J. West & Gregory D. Bothun.* 350, 36, 25-D11 (1990)

Properties of Clusters of Galaxies in the Explosion Scenario. *Michael J. West, David H. Weinberg, & Avishai Dekel.* 353, 329, 68-C1 (1990)

Peculiar Velocities in Large-Scale Structure: The Problem of Incomplete Sampling. *Gregory D. Bothun, Michael J. West, Jeremy R. Mould, & R. A. Schommer.* 353, 344, 68-D3 (1990)

A Morphology-Density Relation for Clusters of Galaxies. *James M. Schombert & Michael J. West.* 363, 331, 188-C1 (1990)

WEST, S. C. The Optical and Near-Infrared Continuum Polarization of Five Magnetic White Dwarf Stars: New Observations and Considerations Regarding Its Origin. *S. C. West.* 345, 511, 155-D9 (1989)

An Optical Polarization Survey of the Palomar-Green Bright Quasar Sample. *Graham Berriman, Gary D. Schmidt, S. C. West, & H. S. Stockman.* 74, 869, 43-E5 (1990)

WEST, STEVEN C. The New Magnetic White Dwarf PG 1031+234: Polarization and Field Structure at More than 500 Million Gauss. *Gary D. Schmidt, Steven C. West, James Liebert, Richard F. Green, & H. S. Stockman.* 309, 218, 122-C11 (1986)

The Hiss of BL Lacertae. *Richard L. Moore, Gary D. Schmidt, & Steven C. West.* 314, 176, 29-G10 (1987)

The Discovery of Near-Infrared Polarized Cyclotron Emission in the Intermediate Polar BG Canis Minoris. *Steven C. West, Graham Berriman, & Gary D. Schmidt.* 322, L35, 145-C7 (1987)

WESTBURY, CATHERINE F. Plane, Relativistic, Oblique Shock Fronts. *R. N. Henriksen & Catherine F. Westbury.* 327, 50, 47-E3 (1988)

WESTERGAARD, N. J. X-Ray Spectrum of the 2A 0335+096 Cluster of Galaxies. *K. P. Singh, N. J. Westergaard, & H. W. Schnopper.* 308, L51, 120-E14 (1986)

X-Ray Observations of the Supernova Remnant N103B in the Large Magellanic Cloud. *K. P. Singh, N. J. Westergaard, H. W. Schnopper, & D. J. Helfand.* 322, 80, 138-G3 (1987)

EXOSAT Observations of the Hot Gas in the A1060 Cluster of Galaxies. *K. P. Singh, N. J. Westergaard, & H. W. Schnopper.* 330, 620, 99-C4 (1988)

Cooling Flow in the 2A 0335+096 Cluster of Galaxies. *K. P. Singh, N. J. Westergaard, & H. W. Schnopper.* 331, 672, 116-B13 (1988)

Ginga Observations of X-Rays from the Seyfert I Galaxy Markarian 509. *K. P. Singh, N. J. Westergaard, H. W. Schnopper, H. Awaki, & Y. Tawara.* 363, 131, 183-F10 (1990)

WESTERN, L. R. Cylindrical Astrophysical Maser Models: Polarization Due to Magnetic Fields. *L. R. Western.* 317, 858, 75-D7 (1987)

WESTERN, LONNY R. Astrophysical Masers with Magnetic Fields and Velocity Gradients. *Shuji Deguchi, William D. Watson, & Lonny R. Western.* 302, 108, 29-B10 (1986)

WESTPFAHL, DAVID J. Noncircular Gas Velocities and the Radial Dependence of Mass-to-Light Ratio in NGC 4594 (The Sombrero Galaxy). *John Kormendy & David J. Westpfahl.* 338, 752, 43-B10 (1989)

WEYMANN, R. J. Pressure-confined Lyman-Alpha Clouds. *E. Baron, R. F. Carswell, C. J. Hogan, & R. J. Weymann.* 337, 609, 26-F1 (1989)

WEYMANN, RAY J. On the Abundance of Metals and the Ionization State in Absorbing Clouds toward QSOs. *Frederic H. Chaffee, Jr., Craig B. Foltz, Jill Bechtold, & Ray J. Weymann.* 301, 116, 15-C1 (1986)

C IV Absorption Systems in QSO Spectra: Is the Character of Systems with $z_{abs} \cong z_{em}$ Different from Those with $z_{abs} \ll z_{em}$? *Craig B. Foltz, Ray J. Weymann, Bradley M. Peterson, Light Sun,*

Matthew A. Malkan, & Frederic H. Chaffee, Jr. 307, 504, 102-C1 (1986)

The Absorption-Line Spectrum of GC 1556+335: Ejected or Intervening Material? *Simon L. Morris, Ray J. Weymann, Craig B. Foltz, D. A. Turnshek, S. Shectman, C. Price, & T. A. Boroson.* 310, 40, 132-D12 (1986)

The Intergrated Ultraviolet Radiation Field from QSOs. *Jill Bechtold, Ray J. Weymann, Zuo Lin, & Matthew A. Malkan.* 315, 180, 42-A4 (1987)

The Complex Absorption Spectrum of the Broad Absorption Line QSO 1303+308. *Craig B. Foltz, Ray J. Weymann, Simon L. Morris, & David A. Turnshek.* 317, 450, 68-G10 (1987)

QSOs with PHL 5200–like Broad Absorption Line Profiles. *David A. Turnshek, Craig B. Foltz, Carl J. Grillmair, & Ray J. Weymann.* 325, 651, 27-F4 (1988)

WHANG, Y. C. Solar Wind Flow Upstream of the Coronal Slow Shock. *Y. C. Whang.* 307, 838, 106-B9 (1986)

WHEATLEY, J. M. Abundances in Intermediate-Velocity Clouds toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 332, L75, 137-D5 (1988)

An Ultraviolet Spectral Atlas of Interstellar Lines toward SN 1987A. *J. C. Blades, J. M. Wheatley, N. Panagia, M. Grewing, M. Pettini, & W. Wamsteker.* 334, 308, 157-G1 (1988)

WHEATON, WM. A. The Gamma-Ray Spectrum of the Galactic Center Region: Erratum. *Guenter R. Riegler, James C. Ling, William A. Mahoney, Wm. A. Wheaton, & Allan S. Jacobson.* 305, L33, 74-C6 (1986) (Orig. paper in 294, L13, 71-E12 (1985))

Long-Term Gamma-Ray Spectral Variability of Cygnus X-1. *J. C. Ling, W. A. Mahoney, Wm. A. Wheaton, & A. S. Jacobson.* 321, L117, 137-B8 (1987)

Gamma-Ray Observations of ^{56}Co in SN 1987A. *W. A. Mahoney, L. S. Varnell, A. S. Jacobson, J. C. Ling, R. G. Radocinski, & Wm. A. Wheaton.* 334, L81, 169-D5 (1988)

Search for a Narrow Annihilation Feature Correlated with the MeV Emission of Cygnus X-1. *J. C. Ling & Wm. A. Wheaton.* 343, L57, 132-C10 (1989)

WHEELER, B. A Coarse-Grain Search for Anisotropy in the Arrival Directions of Cosmic Rays above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, & B. Wheeler.* 351, 454, 45-F7 (1990)

Measurements of Cosmic-Ray Air Shower Development at Energies above 10^{17} eV. *G. L. Cassiday, R. Cooper, S. C. Corbató, B. R. Dawson, J. W. Elbert, B. E. Fick, K. D. Green, D. B. Kieda, S. Ko, D. F. Liebing, E. C. Loh, M. H. Salamon, J. D. Smith, P. Sokolsky, P. Sommers, S. B. Thomas, S. X. Wang, & B. Wheeler.* 356, 669, 108-E1 (1990)

WHEELER, J. C. Dwarf Nova Burst Asymmetry and the Physics of Accretion Disks. *J. K. Cannizzo, J. C. Wheeler, & R. S. Polidan.* 301, 634, 22-E8 (1986)

Mass Transfer in Cataclysmic Variables: Clues from the Dwarf Nova Period Distribution. *A. W. Shafter, J. C. Wheeler, & J. K. Cannizzo.* 305, 261, 69-G5 (1986)

Type Ib Supernovae 1983n and 1985f: Oxygen-rich Late Time Spectra. *C. M. Gaskell, E. Cappellaro, H. L. Dinerstein, D. R. Garnett, R. P. Harkness, & J. C. Wheeler.* 306, L77, 93-G11 (1986)

Supernovae 1983i and 1983v: Evidence for Abundance Variations in Type Ib Supernovae. *J. C. Wheeler, R. P. Harkness, E. S. Barker, A. L. Cochran, & D. Wills.* 313, L69, 27-C11 (1987)

The Early Spectral Phase of Type Ib Supernovae: Evidence for Helium. *R. P. Harkness, J. C. Wheeler, B. Margon, R. A. Downes, R. P. Kirshner, A. Uomoto, E. S. Barker, A. L. Cochran, H. L. Dinerstein, D. R. Garnett, & R. M. Levreault.* 317, 355, 67-F14 (1987)

Structure and Evolution of Irradiated Accretion Disks. I. Static Thermal Equilibrium Structure. *Y. Tuchman, S. Mineshige, & J. C. Wheeler.* 359, 164, 136-B1 (1990)

Structure and Evolution of Irradiated Accretion Disks. II. Dynamical Evolution of a Thermally Unstable Torus. *S. Mineshige, Y. Tuchman, & J. C. Wheeler.* 359, 176, 136-C1 (1990)

WHEELER, J. CRAIG. A Reanalysis of Galactic Primary Nucleosynthesis. *Bruce A. Twarog & J. Craig Wheeler.* 316, 153, 51-F1 (1987)

A Linear Thermal Stability Analysis for the Vertical Structure of Alpha Model Accretion Disks. *Hideyuki Saio, John K. Cannizzo, & J. Craig Wheeler.* 316, 716, 60-A1 (1987)

Models for Type Ia Supernovae with Composition Inversions. *J. Craig Wheeler, Douglas Swartz, Zong-wei Li, & Peter G. Sutherland.* 316, 733, 60-B5 (1987)

Progenitor Structure of SN 1987A. *Zalman Barkat & J. Craig Wheeler.* 332, 247, 125-G4 (1988)

On the Outburst Recurrence Time for the Accretion Disk Limit Cycle Mechanism in Dwarf Novae. *John K. Cannizzo, Allen W. Shafter, & J. Craig Wheeler.* 333, 227, 140-E9 (1988)

Supernova 1987A: The Progenitor Corridor. *Zalman Barkat & J. Craig Wheeler.* 341, 925, 96-F1 (1989)

SN 1987A: Was Sanduleak −69°202 Mixed Up? *Zalman Barkat & J. Craig Wheeler.* 342, 940, 114-A1 (1989)

Thermal Instability Accretion Disk Model for the X-Ray Transient A0620−00. *Min Huang & J. Craig Wheeler.* 343, 229, 121-A14 (1989)

Disk-Instability Model for Soft X-Ray Transients Containing Black Holes. *Shin Mineshige & J. Craig Wheeler.* 343, 241, 121-B14 (1989)

Supernova 1987A: The Evolution from Blue to Red. *Y. Tuchman & J. Craig Wheeler.* 344, 835, 144-F1 (1989)

SN 1987A: The Evolution from Red to Blue. *Y. Tuchman & J. Craig Wheeler.* 346, 417, 171-C4 (1989)

The Convective Urca Mechanism. *Zalman Barkat & J. Craig Wheeler.* 355, 602, 96-A12 (1990)

Time-dependent X-Ray Emission from Unstable Accretion Disks around Black Holes. *Shin Mineshige, Soon-Wook Kim, & J. Craig Wheeler.* 358, L5, 127-A11 (1990)

Large Magellanic Cloud Helium-rich Peculiar Blue Supergiants and SN 1987A. *Y. Tuchman & J. Craig Wheeler.* 363, 255, 185-C5 (1990)

WHIFFEN, G. Composite Interstellar Grains. *John S. Mathis & G. Whiffen.* 341, 808, 95-C1 (1989)

WHIPPLE, FRED L. Comets in the Space Age. *Fred L. Whipple.* 341, 1, 84-A9 (1989)

WHITAKER, RODNEY W. Star Formation in Colliding Gas Flows. *James H. Hunter, Jr., Maxwell T. Sandford II, Rodney W. Whitaker, & Richard I. Klein.* 305, 309, 70-D4 (1986)

Anisentropic, Magnetized Kelvin-Helmholtz and Related Instabilities in the Interstellar Medium. *James H. Hunter, Jr., & Rodney W. Whitaker.* 71, 777, 47-B1 (1989)

WHITE, G. L. Radio and X-Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)

WHITE, GLENN J. Submillimeter Wavelength Molecular Spectroscopy of the Orion Molecular Cloud. *Glenn J. White, L. W. Avery, K. J. Richardson, & J. C. G. Lesurf.* 302, 701, 38-C9 (1986)

Observations of Globules and Dark Clouds in the CO $J = 3$–2 and $J = 2$–1 Lines. *L. W. Avery, Glenn J. White, I. P. Williams, & N. Cronin.* 312, 848, 12-B13 (1987)

The Unusual Morphology of the High-Velocity Gas in L723: One Outflow or Two? *L. W. Avery, S. S. Hayashi, & Glenn J. White.* 357, 524, 119-B1 (1990)

WHITE, GRAEME L. Redshifts of Southern Radio Sources. VII. *Graeme L. White, David L. Jauncey, Ann Savage, Alan E. Wright, Michael J. Batty, Bruce A. Peterson, & Sam Gulkis.* 327, 561, 54-G7 (1988)

Radio Emission from EA Eclipsing Binaries: Evidence for Kilogauss Surface Fields on Both Early-Type and Late-Type Stars. *R. T. Stewart, O. B. Slee, Graeme L. White, E. Budding, D. W. Coates, K. Thompson, & John D. Bunton.* 342, 463, 106-D7 (1989)

WHITE, JULIA L. The X-Ray Spectra of High-Redshift Quasars. *Claude R. Canizares & Julia L. White.* 339, 27, 50-D1 (1989)

WHITE, N. Bimodal Quasi-oscillatory and Spectral Behavior in Scorpius X-1. *W. Priedhorsky, G. Hasinger, W. H. G. Lewin, J. Middleditch, A. Parmar, L. Stella, & N. White.* 306, L91, 94-A10 (1986)

Intensity and Source State Dependence of the Quasi-periodic Oscillations in Scorpius X-1. *M. van der Klis, L. Stella, N. White, F. Jansen, & A. N. Parmar.* 316, 411, 54-E3 (1987)

WHITE, N. E. An *EXOSAT* Observation of Quiescent and Flare Coronal X-Ray Emission from Algol. *N. E. White, J. L. Culhane, A. N. Parmar, B. J. Kellett, S. Kahn, G. H. J. van den Oord, & J. Kuijpers.* 301, 262, 16-F14 (1986)

Orbital Elements of the Binary X-Ray Pulsar GX 301–2. *N. Sato, F. Nagase, N. Kawai, R. L. Kelley, S. Rappaport, & N. E. White.* 304, 241, 56-E6 (1986)

The Evolution of the 1984 Outburst of the Transient X-Ray Source 4U 1630–47. *A. N. Parmar, L. Stella, & N. E. White.* 304, 664, 63-C8 (1986)

The Discovery of 3.8 Hour Periodic Intensity Dips and Eclipses from the Transient Low-Mass X-Ray Binary EXO 0748–676. *A. N. Parmar, N. E. White, P. Giommi, & M. Gottwald.* 308, 199, 110-C4 (1986)

The Bursting Behavior of the Transient X-Ray Burst Source EXO 0748–676: A Dependence between the X-Ray Burst Properties and the Strength of the Persistent Emission. *M. Gottwald, F. Haberl, A. N. Parmar, & N. E. White.* 308, 213, 110-D4 (1986)

Intermittent Stellar Wind Acceleration and the Long-Term Activity of Population I Binary Systems Containing an X-Ray Pulsar. *L. Stella, N. E. White, & R. Rosner.* 308, 669, 116-C9 (1986)

H1504+65: An Extraordinarily Hot Compact Star Devoid of Hydrogen and Helium. *J. A. Nousek, Harry L. Shipman, J. B. Holberg, James Liebert, Steven H. Pravdo, N. E. White, & Paolo Giommi.* 309, 230, 122-D9 (1986)

Simultaneous X-Ray and Infrared Observations of Cygnus X-3. *K. O. Mason, F. A. Córdova, & N. E. White.* 309, 700, 129-A1 (1986)

The Discovery of a Second Orbital Period from the X-Ray Source 4U 1820–30 in the Globular Cluster NGC 6624. *L. Stella, W. Priedhorsky, & N. E. White.* 312, L17, 7-B4 (1987)

EXOSAT Observations of Double-peaked Bursts with Radius Expansion from 4U/MXB 1820–30. *F. Haberl, L. Stella, N. E. White, W. C. Priedhorsky, & M. Gottwald.* 314, 266, 31-A9 (1987)

The Discovery of 15–30 Hertz Quasi-periodic Oscillations in the X-Ray flux of 4U 1820–30. *L. Stella, N. E. White, & W. Priedhorsky.* 315, L49, 45-E3 (1987)

The Discovery of 7 and 24–28 Hertz Quasi-periodic Oscillations in the X-Ray Flux of GX 17+2 (4U 1812–14). *L. Stella, A. N. Parmar, & N. E. White.* 321, 418, 126-F11 (1987)

The Properties of Bursts with Short Recurrence Times from the Transient X-Ray Source EXO 0748–676. *M. Gottwald, F. Haberl, A. N. Parmar, & N. E. White.* 323, 575, 161-A11 (1987)

The X-Ray Spectral Properties of Accretion Disks in X-Ray Binaries. *N. E. White, L. Stella, & A. N. Parmar.* 324, 363, 5-B7 (1988)

Quasi-periodic Oscillations in the X-Ray Flux of the Rapid Burster (MXB 1730–335). *L. Stella, F. Haberl, W. H. G. Lewin, A. N. Parmar, J. van Paradijs, & N. E. White.* 324, 379, 5-C9 (1988)

Simultaneous X-Ray and Radio Observations of GX 13+1. *M. R. Garcia, J. E. Grindlay, L. A. Molnar, L. Stella, N. E. White, & E. R. Seaquist.* 328, 552, 69-B12 (1988)

An *EXOSAT* Observation of CTB 80. *L. Angelini, N. E. White, A. N. Parmar, A. Smith, & M. A. Stevens.* 330, L43, 96-F10 (1988)

EXOSAT Observations of the Cassiopeia A Supernova Remnant. *F. Jensen, A. Smith, J. A. M. Bleeker, P. A. J. de Korte, A. Peacock, & N. E. White.* 331, 949, 119-D4 (1988)

The Transient 42 Second X-Ray Pulsar EXO 2030+375. I. The Discovery and the Luminosity Dependence of the Pulse Period Variations. *A. N. Parmar, N. E. White, L. Stella, C. Izzo, & P. Ferri.* 338, 359, 37-D6 (1989)

The Transient 42 Second X-Ray Pulsar EXO 2030+375. II. The Luminosity Dependence of the Pulse Profile. *A. N. Parmar, N. E. White, & L. Stella.* 338, 373, 37-E7 (1989)

Iron K Lines from Low-Mass X-Ray Binaries. *T. Kallman & N. E. White.* 341, 955, 97-A8 (1989)

An *EXOSAT* X-Ray Observation of One Orbital Cycle of 4U 1700–37/HD 153919. *F. Haberl, N. E. White, & T. R. Kallman.* 343, 409, 123-B8 (1989)

X-Ray Spectroscopy of the Ultrasoft Transient 4U 1543–47. *H. van der Woerd, N. E. White, & S. M. Kahn.* 344, 320, 137-A7 (1989)

X-Ray Eclipse Mapping of AR Lacertae. *N. E. White, R. A. Shafer, K. Horne, A. N. Parmar, & J. L. Culhane.* 350, 776, 35-F1 (1990)

The X-Ray Absorption Spectrum of Vela X-1. *F. Haberl & N. E. White.* 361, 225, 159-F9 (1990)

WHITE, NICK E. X-Rays from the Magnetic White Dwarf PG 1658+441. *Steven H. Pravdo, Francis E. Marshall, Nick E. White, & Paolo Giommi.* 300, 819, 12-B8 (1986)

WHITE, R. L. A 20 Centimeter Survey of Compact Sources in the Northern Galactic Plane. *R. H. Becker, R. L. White, B. J. McLean, D. J. Helfand, & S. Zoonematkermani.* 358, 485, 129-E10 (1990)

A Catalog of Small-Diameter Radio Sources in the Galactic Plane. *S. Zoonematkermani, D. J. Helfand, R. H. Becker, R. L. White, & R. A. Perley.* 74, 181, 32-E11 (1990)

WHITE, R. STEPHEN. A Search for Gamma Rays of 1.5–20.0 MeV from Centaurus A. *Terrence O'Neill, O. Tumay Tumer, Allen Zych, & R. Stephen White.* 339, 78, 51-A2 (1989)

WHITE, RAYMOND E. Axial Ratios and Orientations for 100 Galactic Globular Star Clusters. *Raymond E. White & Stephen J. Shawl.* 317, 246, 66-E13 (1987)

WHITE, RAYMOND E., III. Star Formation in X-Ray Cluster Cooling Flows. *Raymond E. White III & Craig L. Sarazin.* 318, 612, 87-E9 (1987)

Determining Star Formation Rates in X-Ray Cluster Cooling Flows. *Raymond E. White III & Craig L. Sarazin.* 318, 621, 87-F5 (1987)

Numerical Models of Star Formation in X-Ray Cluster Cooling Flows. *Raymond E. White III & Craig L. Sarazin.* 318, 629, 87-F14 (1987)

Steady State Cooling Flow Models for Normal Elliptical Galaxies. *Craig L. Sarazin & Raymond E. White III.* 320, 32, 108-C11 (1987)

The X-Ray Emission of Normal Elliptical Galaxies: Steady State Cooling Flow Models. *Craig L. Sarazin & Raymond E. White III.* 331, 102, 107-B6 (1988)

Star Formation in the Cooling Flows of M87/Virgo and NGC 1275/Perseus. *Raymond E. White III & Craig L. Sarazin.* 335, 688, 180-B3 (1988)

WHITE, RICHARD E. Interstellar Lithium: Differential Depletion in Diffuse Clouds. *Richard E. White.* 307, 777, 105-D10 (1986)

WHITE, RICHARD L. X-Ray Emission from Wolf-Rayet Stars. *Richard L. White & Knox S. Long.* 310, 832, 143-A8 (1986)

LkHα 101: The Stellar Wind, the Surrounding Nebula, and an Associated Radio Star Cluster. *Robert H. Becker & Richard L. White.* 324, 893, 13-C5 (1988)

Noise and Relaxation in Simulations of Disk Galaxies. *Richard L. White.* 330, 26, 90-C7 (1988)

WHITE, S. The Radio Signatures of a Slow Coronal Mass Ejection: Electron Acceleration at Slow-Mode Shocks? *M. Kundu, N. Gopalswamy, S. White, P. Cargill, E. J. Schmahl, & E. Hildner.* 347, 505, 188-C3 (1989)

WHITE, S. M. Particle Propagation Effects on Wave Growth in a Solar Flux Tube. *S. M. White, D. B. Melrose, & G. A. Dulk.* 308, 424, 112-F1 (1986)

Solar Microbursts at Meter-Dekameter Wavelengths. *M. R. Kundu, T. E. Gergely, A. Szabo, R. Loiacono, & S. M. White.* 308, 436, 112-F13 (1986)

Microwave Observations of Flare Stars UV Ceti, AT Microscopii, and AU Microscopii. *M. R. Kundu, P. D. Jackson, S. M. White, & M. Melozzi.* 312, 822, 12-A1 (1987)

Simultaneous 2 and 6 Centimeter Wavelength Observations of a Solar Flare Using the VLA. *M. R. Kundu, T. Velusamy, & S. M. White.* 321, 593, 128-E9 (1987)

First High Spatial Resolution Interferometric Observations of Solar Flares at Millimeter Wavelengths. *M. R. Kundu, S. M. White, N. Gopalswamy, J. H. Bieging, & G. J. Hurford.* 358, L69, 133-E8 (1990)

WHITE, SIMON D. M. The Density Profiles of Tidally Stripped Galaxies. *Luis A. Aguilar & Simon D. M. White.* 307, 97, 96-A9 (1986)

Clusters, Filaments, and Voids in a Universe Dominated by Cold Dark Matter. *Simon D. M. White, Carlos S. Frenk, Marc Davis, & George Efstathiou.* 313, 505, 22-C11 (1987)

The Appearance of Primeval Galaxies. *E. Baron & Simon D. M. White.* 322, 585, 146-C1 (1987)

The Formation of Dark Halos in a Universe Dominated by Cold Dark Matter. *Carlos S. Frenk, Simon D. M. White, Marc Davis, & George Efstathiou.* 327, 507, 54-C1 (1988)

Clustering Bias in the Nearby Galaxies Catalog and in Cold Dark Matter Models. *Simon D. M. White, R. Brent Tully, & Marc Davis.* 333, L45, 152-B13 (1988)

Cosmological Velocity Correlations: Observations and Model Predictions. *Krzysztof Górski, Marc Davis, Michael A. Strauss, Simon D. M. White, & Amos Yahil.* 344, 1, 133-A9 (1989)

Superclustering of Quasi-stellar Object Absorption Clouds. *Julia Heisler, Craig J. Hogan, & Simon D. M. White.* 347, 52, 182-F7 (1989)

The Stability of a Collisionless Cosmological Shell. *Simon D. M. White & J. P. Ostriker.* 349, 22, 14-C5 (1990)

Galaxy Clusters and the Amplitude of Primordial Fluctuations. *Carlos S. Frenk, Simon D. M. White, George Efstathiou, & Marc Davis.* 351, 10, 38-B11 (1990)

Disks in Elliptical Galaxies. *Hans-Walter Rix & Simon D. M. White.* 362, 52, 169-F5 (1990)

WHITE, STEPHEN M. Narrow-Band Radio Flares from Red Dwarf Stars. *Stephen M. White, Mukul R. Kundu, & Peter D. Jackson.* 311, 814, 156-F7 (1986)

Dynamic Spectrum of a Radio Flare on UV Ceti. *Peter D. Jackson, Mukul R. Kundu, & Stephen M. White.* 316, L85, 62-C14 (1987)

A VLA Survey of Nearby Flare Stars. *Stephen M. White, Peter D. Jackson, & Mukul R. Kundu.* 71, 895, 48-E9 (1989)

WHITE, TIMOTHY R. Compton Reflection of Gamma Rays by Cold Electrons. *Timothy R. White, Alan P. Lightman, & Andrzej A. Zdziarski.* 331, 939, 119-C8 (1988)

Effects of Cold Matter in Active Galactic Nuclei: A Broad Hump in the X-Ray Spectra. *Alan P. Lightman & Timothy R. White.* 335, 57, 170-G1 (1988)

Hot Accretion Disks with Electron-Positron Pairs. *Timothy R. White & Alan P. Lightman.* 340, 1024, 81-A9 (1989)

Instabilities and Time Evolution of Hot Accretion Disks with Electron-Positron Pairs. *Timothy R. White & Alan P. Lightman.* 352, 495, 57-C1 (1990)

WHITEOAK, J. B. Detection of an OH/IR Star in the Large Magellanic Cloud. *P. R. Wood, M. S. Bessell, & J. B. Whiteoak.* 306, L81, 94-A1 (1986)

Detection of the $2_0 \rightarrow 3_{-1}$ Transition of $^{13}CH_3OH$ at 14.8 GHz. *T. B. H. Kuiper, W. L. Peters III, F. F. Gardner, J. B. Whiteoak, & J. E. Reynolds.* 340, L41, 75-F9 (1989)

WHITFORD, A. E. M Giants in Baade's Window: Infrared Colors, Luminosities, and Implications for the Stellar Content of E and S0 Galaxies. *Jay A. Frogel & A. E. Whitford.* 320, 199, 110-C10 (1987)

Galactic Bulge M Giants. II. Content and Structure of the Bulge between $b = -3°$ and $-12°$. *Jay A. Frogel, D. M. Terndrup, V. M. Blanco, & A. E. Whitford.* 353, 494, 70-B8 (1990)

Galactic Bulge M Giants. III. Near-Infrared Spectra and Implications for the Stellar Content of E and S0 Galaxies. *D. M. Terndrup, Jay A. Frogel, & A. E. Whitford.* 357, 453, 118-C1 (1990)

WHITFORD, ALBERT E. Infrared Photometry and Spectroscopy of Supernova 1986g in NGC 5128–Centaurus A. *Jay A. Frogel, Brooke Gregory, Kimiaki Kawara, Dave Laney, M. M. Phillips, Don Terndrup, Frederick Vrba, & Albert E. Whitford.* 315, L129, 49-E11 (1987)

WHITLOCK, L. Observations of the X-Ray Transient 4U 0115+63. *L. Whitlock, D. Roussel-Dupré, & W. Priedhorsky.* 338, 381, 37-F3 (1989)

Reanalysis of the 1973 Outburst of the X-Ray Transient V0332+53. *L. Whitlock.* 344, 371, 137-E9 (1989)

Observations of the X-Ray Transient 4U 0115+63: Erratum. *L. Whitlock, D. Roussel-Dupré, & W. Priedhorsky.* 344, 1051, 147-C1 (1989) (Orig. paper in 338, 381, 37-F3 (1989))

WHITMORE, BRADLEY C. Is the Distribution of Mass within Spiral Galaxies a Function of Galaxy Environment? *David Burstein, Vera C. Rubin, W. Kent Ford, Jr., & Bradley C. Whitmore.* 305, L11, 74-A13 (1986)

The Shape of the Dark Halo in Polar-Ring Galaxies. *Bradley C. Whitmore, Douglas B. McElroy, & François Schweizer.* 314, 439, 34-C9 (1987)

IC 4767 (the "X-Galaxy"): The Missing Link for Understanding Galaxies with Peanut-shaped Bulges? *Bradley C. Whitmore & Marylin Bell.* 324, 741, 11-D10 (1988)

Rotation Curves for Spiral Galaxies in Clusters. I. Data, Global Properties, and a Comparison with Field Galaxies. *Vera C. Rubin, Bradley C. Whitmore, & W. Kent Ford, Jr.* 333, 522, 145-E5 (1988)

Rotation Curves for Spiral Galaxies in Clusters. II. Variations as a Function of Cluster Position. *Bradley C. Whitmore, Duncan A. Forbes, & Vera C. Rubin.* 333, 542, 145-G8 (1988)

The Distribution of Mass for Spiral Galaxies in Clusters and in the Field. *Duncan A. Forbes & Bradley C. Whitmore.* 339, 657, 60-A6 (1989)

Photometric Properties of Galaxies in the Cluster DC 1842–63. *Marylin Bell & Bradley C. Whitmore.* 70, 139, 18-F11 (1989)

WHITNEY, A. R. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

VLBI Using a Telescope in Earth Orbit. II. Brightness Temperatures Exceeding the Inverse Compton Limit. *R. P. Linfield, G. S. Levy, J. S. Ulvestad, C. D. Edwards, S. J. DiNardo, L. R. Stavert, C. H. Ottenhoff, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, & T. Nishimura.* 336, 1105, 16-B10 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

WHITNEY, B. A. R Coronae Borealis Dust Ejections: A Preferred Plane? *S. A. Stanford, G. C. Clayton, M. R. Meade, K. H. Nordsieck, B. A. Whitney, M. A. Murison, M. A. Nook, & C. M. Anderson.* 325, L9, 25-A14 (1988)

WHITNEY, CHARLES A. Nonlinear Pulsations of Discrete Stellar Models. III. Adiabatic Motions of a Two-Zone Model. *Toshiki Aikawa & Charles A. Whitney.* 328, 187, 64-A10 (1988)

WHITNEY, SCOTT. The Perseus Flasher and Satellite Glints. *Bradley E. Schaefer, Michael Barber, John J. Brooks, Allen DeForrest, Paul D. Maley, Norman W. McLeod III, Russ McNiel, Andrew J. Noymer, A. K. Presnell, Richard Schwartz, & Scott Whitney.* 320, 398, 112-D2 (1987)

WHITTET, D. C. B. Unusual Features of the 1–4 Micron Spectrum of HR 4049. *T. R. Geballe, K. S. Noll, D. C. B. Whittet, & L. B. F. M. Waters.* 340, L29, 75-E9 (1989)

Interstellar Extinction and Polarization in the Infrared. *P. G. Martin & D. C. B. Whittet.* 357, 113, 112-D10 (1990)

WHITTLE, M. Radio Lobes and [O III] Profile Substructure in Seyfert Galaxies. *M. Whittle, A. Pedlar, E. J. A. Meurs, S. W. Unger, D. J. Axon, & M. J. Ward.* 326, 125, 33-D8 (1988)

WHITTLE, MARK. Cloud Models for the Nuclei of Active Galaxies: A Distribution Function Description. *Mark Whittle & William C. Saslaw.* 310, 104, 133-B11 (1986)

Kinematics and Ionization of Extended Gas in Active Galaxies. III. The Extranuclear Properties of NGC 1068. *J. A. Baldwin, A. S. Wilson, & Mark Whittle.* 319, 84, 94-A3 (1987)

Radio Galaxy Jets as Probes of Galactic Structure. *William C. Saslaw & Mark Whittle.* 325, 142, 20-F5 (1988)

WIBBERENZ, G. Pitch Angle Distributions of Solar Energetic Particles and the Local Scattering Properties of the Interplanetary Medium. *J. Beeck & G. Wibberenz.* 311, 437, 150-G4 (1986)

A Multispacecraft Study of the Injection and Transport of Solar Energetic Particles. *J. Beeck, G. M. Mason, D. C. Hamilton, G. Wibberenz, H. Kunow, D. Hovestadt, & B. Klecker.* 322, 1052, 151-D14 (1987)

WICHOSKI, U. F. A Search for QSOs to Fit a Cosmological Model with Flat, Closed Spatial Sections. *H. V. Fagundes & U. F. Wichoski.* 322, L5, 145-A8 (1987)

WICKRAMASINGHE, D. T. A Test of the Dipole Model for the Rotating Magnetic White Dwarf Feige 7. *Brian Martin & D. T. Wickramasinghe.* 301, 177, 15-G9 (1986)

Absorption Features from the Accretion Column in E1405−451. *D. T. Wickramasinghe, I. R. Tuohy, & N. Visvanathan.* 318, 326, 82-D8 (1987)

A Centered Dipole Model for the High Field Magnetic White Dwarf GRW +70°8247. *D. T. Wickramasinghe & Lilia Ferrario.* 327, 222, 49-D2 (1988)

Evidence for Nonpolar Emission in a New AM Herculis Candidate. *Ian R. Tuohy, Lilia Ferrario, D. T. Wickramasinghe, & M. R. S. Hawkins.* 328, L59, 74-E11 (1988)

Cyclotron Emission from Inhomogeneous Shocks in AM Herculis–Type Systems. *D. T. Wickramasinghe & Lilia Ferrario.* 334, 412, 159-C2 (1988)

EXO 033319−2554.2: An Eclipsing AM Herculis System Showing Cyclotron Emission Features. *Lilia Ferrario, D. T. Wickramasinghe, Jeremy Bailey, I. R. Tuohy, & J. H. Hough.* 337, 832, 29-C7 (1989)

An Emission-Line Model for AM Herculis Systems. *Lilia Ferrario, D. T. Wickramasinghe, & I. R. Tuohy.* 341, 327, 87-G10 (1989)

A 56 MG Field at the Second Pole in VV Puppis. *D. T. Wickramasinghe, Lilia Ferrario, & Jeremy Bailey.* 342, L35, 109-C12 (1989)

Offset Magnetic Dipoles in White Dwarfs. *N. Achilleos & D. T. Wickramasinghe.* 346, 444, 171-E11 (1989)

Arc-shaped Cyclotron Emission Regions in AM Herculis Systems. *Lilia Ferrario & D. T. Wickramasinghe.* 357, 582, 119-G5 (1990)

WIDING, K. G. The Extreme-Ultraviolet Spectrum (300–630 Å) of an Erupting Prominence Observed from *Skylab*. *K. G. Widing, U. Feldman, & A. K. Bhatia.* 308, 982, 119-F9 (1986)

Ca XV Line Ratios in Solar Flares. *F. P. Keenan, K. M. Aggarwal, K. A. Berrington, & K. G. Widing.* 327, 473, 52-C1 (1988)

Argon XV Line Ratios in the Sun. *F. P. Keenan, K. G. Widing, & S. M. McCann.* 338, 563, 39-G1 (1989)

Electron Density Diagnostics of Fe XII in the Solar Plasma. *S. S. Tayal, Ronald J. W. Henry, F. P. Keenan, S. M. McCann, & K. G. Widing.* 343, 1004, 131-E1 (1989)

Abundance Variations in the Outer Solar Atmosphere Observed in *Skylab* Spectroheliograms. *K. G. Widing & U. Feldman.* 344, 1046, 147-B6 (1989)

1973 September 7 Two-Ribbon Flare. I. Morphology and Loop Expansion. *J. G. Doyle & K. G. Widing.* 352, 754, 60-D2 (1990)

1973 September 7 Two-Ribbon Flare. II. Physical Properties of the Loops in the Arcade. *K. G. Widing & J. G. Doyle.* 352, 760, 60-E1 (1990)

Fe XV Line Ratios in the Sun: Discrepancies between Theory and Observations. *P. L. Dufton, A. E. Kingston, & K. G. Widing.* 353, 323, 66-C1 (1990)

Photospheric Abundances of Oxygen, Neon, and Argon Derived from the XUV Spectrum of an Impulsive Flare. *U. Feldman & K. G. Widing.* 363, 292, 185-F9 (1990)

Ne VII Line Ratios in the Sun. *F. P. Keenan, S. M. McCann, & K. G. Widing.* 363, 315, 186-A11 (1990)

On the Anomalous Abundances of the 2×10^4–2×10^5 K Solar Atmosphere above a Sunspot. *U. Feldman, K. G. Widing, & P. A. Lund.* 364, L21, 199-D1 (1990)

WIDING, KENNETH G. *Skylab* XUV Observations of Densities, Thermal Structure, and Mass Motions in a Compact Flare. *Kenneth G. Widing & J. W. Cook.* 320, 913, 119-F14 (1987)

WIECHEN, HEINZ. Collisionless Relaxation of Self-gravitating Systems with Spherically Symmetric Dynamics. *Harald J. Ziegler & Heinz Wiechen.* 362, 595, 178-B8 (1990)

WIEDEMANN, G. R. Detection of 12 Micron Mg I and OH Lines in Stellar Spectra. *D. E. Jennings, D. Deming, G. R. Wiedemann, & J. J. Keady.* 310, L39, 138-C12 (1986)

WIEDEMANN, GUNTER. Solar Magnetic Field Studies Using the 12 Micron Emission Lines. I. Quiet-Sun Time Series and Sunspot Slices. *Drake Deming, Robert J. Boyle, Donald E. Jennings, & Gunter Wiedemann.* 333, 978, 151-B1 (1988)

Solar Magnetic Field Studies Using the 12 Micron Emission Lines. I. Quiet-Sun Time Series and Sunspot Slices: Erratum. *Drake Deming, Robert J. Boyle, Donald E. Jennings, & Gunter Wiedemann.* 338, 1193, 48-C12 (1989) (Orig. paper in 333, 978, 151-B1 (1988))

A Search for *p*-Mode Oscillations of Jupiter: Serendipitous Observations of Nonacoustic Thermal Wave Structure. *Drake Deming, Michael J. Mumma, Fred Espenak, Donald E. Jennings, Theodor Kostiuk, Gunter Wiedemann, Robert Loewenstein, & Joseph Piscitelli.* 343, 456, 123-F7 (1989)

Observations of the 12.3 Micron Mg I Emission Line during a Major Solar Flare. *Drake Deming, Tilak Hewagama, Donald E. Jennings, Vladimir Osherovich, & Gunter Wiedemann.* 364, L49, 205-E7 (1990)

WIEDEMANN, GUNTER R. Non–LTE CO Revisited. *Thomas R. Ayres & Gunter R. Wiedemann.* 338, 1033, 46-E10 (1989)

WIEDENBECK, M. E. Isotopic Composition of Cosmic-Ray Boron and Nitrogen. *K. E. Krombel & M. E. Wiedenbeck.* 328, 940, 73-E1 (1988)

WIELAND, F. P. The Age of the Large Magellanic Cloud Globular Cluster NGC 2173. *J. R. Mould, G. S. Da Costa, & F. P. Wieland.* 309, 39, 120-D4 (1986)

WIELEBINSKI, R. A Statistical Analysis of the *Einstein* Normal Galaxy Sample. III. Radio and X-Ray Properties of Elliptical and S0 Galaxies. *G. Fabbiano, U. Klein, G. Trinchieri, & R. Wielebinski.* 312, 111, 2-C1 (1987)

WIESCHER, M. A New Estimate of the ^{19}Ne$(p,\gamma)^{20}$Na and ^{15}O$(\alpha,\gamma)^{19}$Ne Reaction Rates at Stellar Energies. *K. Langanke, M. Wiescher, W. A. Fowler, & J. Görres.* 301, 629, 22-E3 (1986)

The Hot Proton-Proton Chains in Low-Metallicity Objects. *M. Wiescher, J. Görres, S. Graff, L. Buchmann, & F.-K. Thielemann.* 343, 352, 122-E1 (1989)

Hydrogen Burning of ^{23}Na in the NeNa Cycle. *J. Görres, M. Wiescher, & C. Rolfs.* 343, 365, 122-F2 (1989)

^{7}Li$(n,\gamma)^8$Li—Trigger Reaction to a Primordial *r*-Process? *M. Wiescher, R. Steininger, & F. Käppeler.* 344, 464, 138-F6 (1989)

rp-Process Reactions in the Calcium Region. *M. Wiescher & J. Görres.* 346, 1041, 180-A7 (1989)

Capture Reactions on ^{14}C in Nonstandard Big Bang Nucleosynthesis. *M. Wiescher, J. Görres, & F.-K. Thielemann.* 363, 340, 188-C11 (1990)

WIESCHER, MICHAEL. Alpha-Burning of ^{14}O. *Michael Wiescher, Volker Harms, Joachim Görres, Friedrich-Karl Thielemann, & Lawrence J. Rybarcyk.* 316, 162, 51-F10 (1987)

^{17}F$(p,\gamma)^{18}$Ne in Explosive Hydrogen Burning. *Michael Wiescher, Joachim Görres, & Friedrich-Karl Thielemann.* 326, 384, 36-D11 (1988)

WIITA, PAUL J. Beam Models for Radio Sources. V. Collimation in More Realistic Galactic Potentials. *Paul J. Wiita & M. Javad Siah.* 300, 605, 9-F10 (1986)

Neutrino Emission by the Pair, Plasma, and Photo Processes in the Weinberg-Salam Model. *Paul J. Schinder, David N. Schramm, Paul J. Wiita, Steven H. Margolis, & David L. Tubbs.* 313, 531, 22-E9 (1987)

Beam Models for Radio Sources. VI Evolution of Magnetized Jets in Power-Law Potentials. *M. Javad Siah & Paul J. Wiita.* 313, 623, 23-E8 (1987)

Beams Crossing a Galactic Halo–Intergalactic Medium Interface and the Size of Extragalactic Radio Sources. *Alexander Rosen & Paul J. Wiita.* 330, 16, 90-B11 (1988)

Expanding Hydrodynamical Jets Crossing a Galactic Halo/Intergalactic Medium Interface. *Paul J. Wiita, Alexander Rosen, & Michael L. Norman.* 350, 545, 33-A7 (1990)

On Spectral Aging in Lobes of Double Radio Sources. *Paul J. Wiita & Gopal-Krishna.* 353, 476, 70-A1 (1990)

Synchrotron Aging in Radio Sources. I. Spatial Variations in Radio Lobes. *M. Javad Siah & Paul J. Wiita.* 363, 411, 189-C1 (1990)

WIKLIND, T. Observations of CO Isotopic Emission and the Far-Infrared Continuum of Centaurus A. *A. Eckart, M. Cameron, H. Rothermel, W. Wild, H. Zinnecker, G. Rydbeck, M. Olberg, & T. Wiklind.* 363, 451, 189-F11 (1990)

Molecular Absorption Lines toward the Nucleus of Centaurus A. *A. Eckart, M. Cameron, R. Genzel, J. M. Jackson, H. Rothermel, J. Stutzki, G. Rydbeck, & T. Wiklind.* 365, 522, 214-F7 (1990)

WILCOTS, ERIC M. Velocities and Rotational Excitation of Interstellar H_2 toward π Scorpii. *Edward B. Jenkins, Joanna F. Lees, Ewine F. van Dishoeck, & Eric M. Wilcots.* 343, 785, 129-A8 (1989)

Ultraviolet Observations of NGC 205. *Eric M. Wilcots, Paul Hodge, Paul B. Eskridge, Francesco Bertola, & Lucio Buson.* 364, 87, 195-A13 (1990)

WILCZYNSKA, B. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

WILCZYNSKI, H. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

WILD, W. Warm Gas and Spatial Variations of Molecular Excitation in the Nuclear Region of IC 342. *A. Eckart, D. Downes, R. Genzel, A. I. Harris, D. T. Jaffe, & W. Wild.* 348, 434, 8-A3 (1990)

Observations of CO Isotopic Emission and the Far-Infrared Continuum of Centaurus A. *A. Eckart, M. Cameron, H. Rothermel, W. Wild, H. Zinnecker, G. Rydbeck, M. Olberg, & T. Wiklind.* 363, 451, 189-F11 (1990)

WILD, WALTER J. The Ca II Resonance Lines in M Dwarf Stars without Hα Emission. *Mark S. Giampapa, Lawrence E. Cram, & Walter J. Wild.* 345, 536, 155-F9 (1989)

WILKES, B. J. X-Ray Spectra of Compact Extragalactic Radio Sources. *D. M. Worrall & B. J. Wilkes.* 360, 396, 151-B11 (1990)

WILKES, BELINDA J. Is Optical Fe II Emission Related to the Soft X-Ray Properties of Quasars? *Belinda J. Wilkes, Martin Elvis, & Ian McHardy.* 321, L23, 129-C12 (1987)

Quasar Energy Distributions. I. Soft X-Ray Spectra of Quasars. *Belinda J. Wilkes & Martin Elvis.* 323, 243, 155-F5 (1987)

Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. III. Intermediate-Resolution Spectroscopy. *David A. Turnshek, Arthur M. Wolfe, Kenneth M. Lanzetta, Frank H. Briggs, Ross D. Cohen, Craig B. Foltz, Harding E. Smith, & Belinda J. Wilkes.* 344, 567, 141-E7 (1989)

Weak Bump Quasars. *Jonathan C. McDowell, Martin Elvis, Belinda J. Wilkes, Steven P. Willner, M. S. Oey, Elisha Polomski, Jill Bechtold, & Richard F. Green.* 345, L13, 157-B5 (1989)

WILKES, J. M. Ripple Structure in Degenerate Electron Gas–dominated Stars with Intense Magnetic Fields. *J. M. Wilkes & R. L. Ingraham.* 344, 399, 137-G12 (1989)

WILKES, R. J. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

WILKIN, FRANCIS P. A Study of the Stellar Population in the Lynds 1641 Dark Cloud. IV. The *Einstein* X-Ray Sources. *Karen M. Strom, Stephen E. Strom, Francis P. Wilkin, Luis Carrasco, Irene Cruz-González, Elsa Recillas, Alfonso Serrano, Robert L. Seaman, John R. Stauffer, Dong Dai, & James Sottile.* 362, 168, 171-B11 (1990)

WILKING, B. Line Identifications in the Infrared Spectrum of SN 1987A. *J. H. Elias, B. Gregory, M. M. Phillips, R. E. Williams, James R. Graham, W. P. S. Meikle, R. D. Schwartz, & B. Wilking.* 331, L9, 114-B1 (1988)

WILKING, B. A. High-Resolution *IRAS* Observations of the Rho Ophiuchi Cloud Core. *E. T. Young, C. J. Lada, & B. A. Wilking.* 304, L45, 66-B9 (1986)

Milliarcsecond Resolution Infrared Observations of Young Stars in Taurus and Ophiuchus. *M. Simon, R. R. Howell, A. J. Longmore, B. A. Wilking, D. M. Peterson, & W.-P. Chen.* 320, 344, 111-G3 (1987)

Water Masers Associated with Low-Mass Stars: A Survey of the Rho Ophiuchi Infrared Cluster. *B. A. Wilking & M. J. Claussen.* 320, L133, 121-E4 (1987)

A Millimeter-Wave Spectral Line and Continuum Survey of Cold IRAS Sources. *B. A. Wilking, L. G. Mundy, J. H. Blackwell, & J. E. Howe.* 345, 257, 152-C9 (1989)

WILKING, BRUCE A. High Angular Resolution Infrared Mapping of the Compact H II Regions W51 and DR 21/W75. *Paul M. Harvey, Marshall Joy, Daniel F. Lester, & Bruce A. Wilking.* 300, 737, 11-C1 (1986)

Infrared Studies of the Herbig-Haro Object 1–2 Region. *Paul M. Harvey, Marshall Joy, Daniel F. Lester, & Bruce A. Wilking.* 301, 346, 17-F2 (1986)

The Circumstellar Environment of LkHα 234. *Bruce A. Wilking, Lee G. Mundy, & Richard D. Schwartz.* 303, L61, 53-D11 (1986)

Spectroscopic Evidence for Infall around an Extraordinary IRAS Source in Ophiuchus. *Christopher K. Walker, Charles J. Lada, Erick T. Young, Philip R. Maloney, & Bruce A. Wilking.* 309, L47, 125-F9 (1986)

Resolution of Structure in the Protostellar Source IRAS 16293–2422. *Lee G. Mundy, Bruce A. Wilking, & Steven T. Myers.* 311, L75, 160-D13 (1986)

Molecular Clouds in the Outer Galaxy. I. Far-Infrared Observations. *Kathryn N. Mead, Marc L. Kutner, Neal J. Evans II, Paul M. Harvey, & Bruce A. Wilking.* 312, 321, 4-D4 (1987)

An Active Star Formation Site in RCW 108. *Steven Straw, A. R. Hyland, Terry J. Jones, Paul M. Harvey, Bruce A. Wilking, & Marshall Joy.* 314, 283, 31-B12 (1987)

IRAS Observations of the ρ Ophiuchi Infrared Cluster: Spectral Energy Distributions and Luminosity Function. *Bruce A. Wilking, Charles J. Lada, & Erick T. Young.* 340, 823, 78-F3 (1989)

The Circumstellar Structure of IRAS 16293–2422: $C^{18}O$, NH_3, and CO Observations. *Lee G. Mundy, H. A. Wootten, & Bruce A. Wilking.* 352, 159, 52-A4 (1990)

Cold DCO^+ Cores and Protostars in the Warm ρ Ophiuchi Cloud. *Robert B. Loren, Alwyn Wootten, & Bruce A. Wilking.* 365, 269, 209-G1 (1990)

WILKINSON, A. Extended Neutral Hydrogen Emission in the NGC 5903/5898 Binary Elliptical System: Evidence for a Double-Galaxy Accretion Event. *P. N. Appleton, A. Pedlar, & A. Wilkinson.* 357, 426, 117-G9 (1990)

WILKINSON, D. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

WILKINSON, D. T. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

WILKINSON, DAVID T. A 1Radiation at $\lambda = 1.2$ Centimeters. *David G. Johnson & David T. Wilkinson.* 313, L1, 21-A4 (1987)

A Search for Anisotropy in the Cosmic Microwave Radiation at Medium Angular Scales. *Peter T. Timbie & David T. Wilkinson.* 353, 140, 63-G9 (1990)

WILKINSON, P. N. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

VLBI and MERLIN Observations of 3C 120 at 1.7 GHz: Superluminal Motions beyond 0".05. *J. M. Benson, R. C. Walker, S. C. Unwin, T. W. B. Muxlow, P. N. Wilkinson, R. S. Booth, G. Pilbratt, & R. S. Simon.* 334, 560, 162-D9 (1988)

Images of Four Compact Steep-Spectrum Quasars with a Resolution of 20 Milliarcseconds at 329.1 MHz. *R. S. Simon, A. C. S. Readhead, A. T. Moffet, P. N. Wilkinson, R. Booth, B. Allen, & B. F. Burke.* 354, 140, 75-F8 (1990)

WILL, CLIFFORD M. Gravitational Radiation, Close Binary Systems, and the Brans-Dicke Theory of Gravity. *Clifford M. Will & Helmut W. Zaglauer.* 346, 366, 170-F1 (1989)

WILLEMS, F. J. *IRAS* Low-Resolution Spectrograph Observations of Silicate and Molecular SiO Emission in Mira Variables. *M. S. Vardya, T. de Jong, & F. J. Willems.* 304, L29, 61-C2 (1986)

WILLEMS, FRITS J. Carbon Stars with Oxygen-rich Circumstellar Dust Shells: Observational Evidence for the Onset of the Carbon Star Phase. *Frits J. Willems & Teije de Jong.* 309, L39, 125-F1 (1986)

WILLIAMS, A. C. Accretion onto Neutron Stars with the Presence of a Double Layer. *A. C. Williams, M. C. Weisskopf, R. F. Elsner, W. Darbro, & P. G. Sutherland.* 305, 759, 77-C1 (1986)

Observations of Quasi-periodic Oscillations from GX 5–1 and Cygnus X-2 with the *Einstein* (*HEAO 2*) Observatory. *R. F. Elsner, M. C. Weisskopf, W. Darbro, B. D. Ramsey, A. C. Williams, P. G. Sutherland, & J. E. Grindlay.* 308, 655, 116-B7 (1986)

WILLIAMS, B. A. The NGC 4005 Group: A Rotating System of Galaxies? *B. A. Williams.* 311, 25, 146-C5 (1986)

Neutral Hydrogen in Compact Groups of Galaxies. *B. A. Williams & Herbert J. Rood.* 63, 265, 4-C8 (1987)

The Neighborhood of a Compact Group of Galaxies. *Herbert J. Rood & B. A. Williams.* 339, 772, 61-D1 (1989)

WILLIAMS, D. G. SN 1987A: Limits to 400 GeV Gamma-Ray Emission. *P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, S. M. Rayner, K. J. Orford, K. E. Turver, & D. G. Williams.* 333, L19, 144-B11 (1988)

300 GeV Gamma Rays from Vela X-1. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 346, 967, 179-B8 (1989)

300 GeV Gamma Rays from Vela X-1: Erratum. *A. Carramiñana, P. M. Chadwick, N. A. Dipper, E. W. Lincoln, V. G. Mannings, T. J. L. McComb, K. J. Orford, S. M. Rayner, K. E. Turver, & D. G. Williams.* 356, 743, 109-D8 (1990) (Orig. paper in 346, 967, 179-B8 (1989))

WILLIAMS, D. R. W. A Search for Vibrationally Excited Interstellar H_2^+. *W. L. H. Shuter, D. R. W. Williams, Shrinivas R. Kulkarni, & C. Heiles.* 306, 255, 84-B1 (1986)

WILLIAMS, DAVID R. W. A Survey of 12.2 GHz Methanol Masers and Their Polarization Properties. *Bon-Chul Koo, David R. W. Williams, Carl Heiles, & Donald C. Backer.* 326, 931, 43-F9 (1988)

WILLIAMS, GLEN A. Hydrogen Line Emission from Optically Thin Accretion Disks. *Glen A. Williams & Harry L. Shipman.* 326, 738, 41-F8 (1988)

WILLIAMS, HAROLD A. Linear and Nonlinear Dynamic Instability of Rotating Polytropes. *Harold A. Williams & Joel E. Tohline.* 315, 594, 47-B10 (1987)

Circumstellar Ring Formation in Rapidly Rotating Protostars. *Harold A. Williams & Joel E. Tohline.* 334, 449, 159-F8 (1988)

WILLIAMS, HAYES L. H I Observations in the Virgo Cluster Area. III. All "Member" Spirals. *G. Lyle Hoffman, B. M. Lewis, George Helou, E. E. Salpeter, & Hayes L. Williams.* 69, 65, 1-G1 (1989)

Neutral Hydrogen Detection Survey of Dwarf Galaxies. II. Faint Virgo Dwarfs and a Field Sample. *G. Lyle Hoffman, Hayes L. Williams, E. E. Salpeter, Allan Sandage, & Bruno Binggeli.* 71, 701, 46-B1 (1989)

WILLIAMS, I. P. Observations of Globules and Dark Clouds in the CO $J = 3$–2 and $J = 2$–1 Lines. *L. W. Avery, Glenn J. White, I. P. Williams, & N. Cronin.* 312, 848, 12-B13 (1987)

WILLIAMS, KAREN L. Isophotal Diameters of Galaxies at High Redshifts. *Daniel W. Weedman & Karen L. Williams.* 318, 585, 87-C10 (1987)

WILLIAMS, O. R. X-Ray Outburst of the Quasar 3C 279. *F. Makino, T. Kii, K. Hayashida, H. Inoue, Y. Tanaka, T. Ohashi, K. Makishima, H. Awaki, K. Koyama, M. J. L. Turner, & O. R. Williams.* 347, L9, 189-B9 (1989)

WILLIAMS, P. M. Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

The Infrared Light Curves and Colors of SN 1984A. *James R. Graham, W. P. S. Meikle, A. J. Longmore, & P. M. Williams.* 333, 743, 148-D1 (1988)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

WILLIAMS, PEREDUR. Near-Infrared Spectra of Seyfert Nuclei. I. The Reddening Problem. *Martin J. Ward, Thomas Geballe, Malcolm Smith, Richard Wade, & Peredur Williams.* 316, 138, 51-D13 (1987)

WILLIAMS, PEREDUR M. An Eight Year Spectroscopic Orbit for the WC7+O4 Wolf-Rayet Binary HD 193793: Toward Solving the Mystery of the Infrared Outbursts. *Anthony F. Moffat, Robert Lamontagne, Peredur M. Williams, Jiri Horn, & Wilhelm Seggewiss.* 312, 807, 11-F8 (1987)

Near-Infrared H_2 Emission from Herbig-Haro Objects. I. A Survey of Low-Excitation Objects. *Richard D. Schwartz, Martin Cohen, & Peredur M. Williams.* 322, 403, 142-C2 (1987)

Near-Infrared H_2 Emission from Herbig-Haro Objects. I. A Survey of Low-Excitation Objects: Erratum. *Richard D. Schwartz, Martin Cohen, & Peredur M. Williams.* 333, 1035, 151-F14 (1988) (Orig. paper in 322, 403, 142-C2 (1987))

High-Resolution Infrared Molecular Hydrogen Images and Optical Images of Herbig-Haro Object 43. *Richard D. Schwartz, Peredur M. Williams, Martin Cohen, & Donald G. Jennings.* 334, L99, 169-E10 (1988)

WILLIAMS, R. E. Supernova 1987A in the Large Magellanic Cloud: Initial Observations at Cerro Tololo. *V. M. Blanco, B. Gregory, M. Hamuy, S. R. Heathcote, M. M. Phillips, N. B. Suntzeff, D. M. Terndrup, A. R. Walker, R. E. Williams, M. G. Pastoriza, T. Storchi-Bergmann, & J. Matthews.* 320, 589, 116-B3 (1987)

Supernova 1987A in the Large Magellanic Cloud: Possible *s*-Process Enhancements in the Progenitor. *R. E. Williams.* 320, L117, 121-D4 (1987)

QSOs with Narrow Emission Lines. *J. A. Baldwin, Richard McMahon, C. Hazard, & R. E. Williams.* 327, 103, 48-B5 (1988)

Stark-broadened Emission Lines in the Accretion Disks of Cataclysmic Variables. *D. N. C. Lin, R. E. Williams, & R. J. Stover.* 327, 234, 49-E1 (1988)

Line Identifications in the Infrared Spectrum of SN 1987A. *J. H. Elias, B. Gregory, M. M. Phillips, R. E. Williams, James R. Graham, W. P. S. Meikle, R. D. Schwartz, & B. Wilking.* 331, L9, 114-B1 (1988)

WILLIAMS, ROBERT E. Slow Expansion of the Shell of the Recurrent Nova T Pyxidis and Detection of a Faint Extended Envelope. *Michael M. Shara, Anthony F. J. Moffat, Robert E. Williams, & Judith G. Cohen.* 337, 720, 28-A1 (1989)

The Nebular Phase of Nova GQ Muscae 1983: Evolution of the Ionization of the Optical Spectrum. *Joachim Krautter & Robert E. Williams.* 341, 968, 97-B8 (1989)

WILLIAMS, T. B. Forbidden [O II] and [O III] Emission 29" from a QSO Absorption-Line Region. *Brian Yanny, Don Hamilton, R. A. Schommer, T. B. Williams, & D. G. York.* 323, L19, 158-B7 (1987)

Ionized Gas and Radio Emission in the Barred Seyfert Galaxy NGC 5728. *Robert A. Schommer, Nelson Caldwell, A. S. Wilson, J. A. Baldwin, M. M. Phillips, T. B. Williams, & A. J. Turtle.* 324, 154, 2-F9 (1988)

Emission-Line Objects near QSO Absorbers. I. Narrow-Band Imaging and Candidate List. *Brian Yanny, D. G. York, & T. B. Williams.* 351, 377, 44-F1 (1990)

WILLIAMS, WAYNE. Near-Infrared CCD Photometry of Cygnus X-3. *R. Mark Wagner, T. J. Kreidl, S. J. Bus, & Wayne Williams.* 346, 971,

179-C1 (1989)
WILLICK, JEFFREY A. The Peculiar Velocity Field in the Perseus-Pisces Supercluster. *Jeffrey A. Willick.* 351, L5, 43-A11 (1990)
A Redshift Survey toward a Proposed Void of Galaxies Suggested by the Distribution of Abell Clusters. *Jeffrey A. Willick, Jean P. Brodie, & Stuart Bowyer.* 355, 393, 93-C8 (1990)
WILLIGER, G. *IUE* Observations of the Dwarf Nova BV Centauri. *G. Williger, Graham Berriman, Richard A. Wade, & B. J. M. Hassall.* 333, 277, 141-B7 (1988)
WILLINGALE, R. A Comprehensive Study of the X-Ray Structure and Spectrum of IC 443. *R. Petre, A. E. Szymkowiak, F. D. Seward, & R. Willingale.* 335, 215, 172-G8 (1988)
WILLIS, A. G. An X-Ray and Radio Study of Steep-Spectrum Radio Sources. I. Four Fields from the Clark Lake Observatory 26 MHz Survey. *D. E. Harris, P. E. Dewdney, C. H. Costain, I. McHardy, & A. G. Willis.* 325, 610, 27-C2 (1988)
WILLIS, ALLAN J. The Ultraviolet Variability of HD 45166 (qWR+B8 V): Evidence for Stellar Wind Radiative Instabilities. *Allan J. Willis, Ian D. Howarth, D. J. Strickland, & S. R. Heap.* 347, 413, 187-C1 (1989)
WILLMARTH, DARYL W. The Binary Frequency of High-Velocity Field Dwarfs as Obtained with CCD Measures. *Helmut A. Abt & Daryl W. Willmarth.* 318, 786, 89-E2 (1987)
WILLMER, C. First Results from a Deeper Survey of a Southern Redshift Slice. *L. Nicolaci da Costa, Paulo S. Pellegrini, C. Willmer, & David W. Latham.* 344, 20, 133-C3 (1989)
WILLMER, C. N. A. On the Statistical Properties of the Galaxy Distribution. *Paulo S. Pellegrini, C. N. A. Willmer, L. Nicolaci da Costa, & B. X. Santiago.* 350, 95, 26-B9 (1990)
WILLNER, S. P. Extinction to Ionized Gas at the Galactic Center: Erratum. *S. P. Willner & Judith L. Pipher.* 303, 521, 46-F12 (1986) (Orig. paper in 265, 760, 21-A13 (1983))
The Highly Obscured Nucleus of 3C 219. *G. Fabbiano, S. P. Willner, N. P. Carleton, & M. Elvis.* 304, L37, 66-B1 (1986)
Far-Infrared Luminosities of Markarian Starburst Galaxies. *L. K. Deutsch & S. P. Willner.* 306, L11, 86-A13 (1986)
The Continuum of Type 1 Seyfert Galaxies. I. A Single Form Modified by the Effects of Dust. *Martin Ward, Martin Elvis, G. Fabbiano, N. P. Carleton, S. P. Willner, & A. Lawrence.* 315, 74, 40-F12 (1987)
Far-Infrared Luminosities of Markarian Starburst Galaxies. II. Individual Galaxies. *L. K. Deutsch & S. P. Willner.* 63, 803, 13-E14 (1987)
BE Ursae Majoris: A Detached Binary with a Unique Reprocessing Spectrum. *Donald H. Ferguson, James Liebert, Roc Cutri, Richard F. Green, S. P. Willner, João E. Steiner, & Susan Tokarz.* 316, 399, 54-D4 (1987)
The Continuum of Type 1 Seyfert Galaxies. II. Separating Thermal and Nonthermal Components. *N. P. Carleton, Martin Elvis, G. Fabbiano, S. P. Willner, A. Lawrence, & Martin Ward.* 318, 595, 87-D6 (1987)
The Submillimeter Spectral Break in Seyfert Galaxies. *G. Engargiola, D. A. Harper, Martin Elvis, & S. P. Willner.* 332, L19, 129-C9 (1988)
Orion B (NGC 2024). I. VLA and IR Observations of the H II Region. *Peter J. Barnes, Richard M. Crutcher, J. H. Bieging, J. W. V. Storey, & S. P. Willner.* 342, 883, 113-C3 (1989)
Excess 10 Micron Emission in Extragalactic Nuclei. *Paul T. P. Ho, Jean L. Turner, Giovanni G. Fazio, & S. P. Willner.* 344, 135, 134-F8 (1989)
Interstellar Absorption Lines toward NGC 2264 and AFGL 2591: Abundances of H_2, H^{+3}, and CO. *John H. Black, Ewine F. van Dishoeck, S. P. Willner, & R. Claude Woods.* 358, 459, 129-C8 (1990)
WILLNER, STEVEN P. Weak Bump Quasars. *Jonathan C. McDowell, Martin Elvis, Belinda J. Wilkes, Steven P. Willner, M. S. Oey, Elisha Polomski, Jill Bechtold, & Richard F. Green.* 345, L13, 157-B5 (1989)
WILLS, B. J. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)
WILLS, BEVERLEY J. Relativistic Beaming and Quasar Emission Lines. *Beverley J. Wills & I. W. A. Browne.* 302, 56, 28-E9 (1986)
Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)
WILLS, D. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)
Supernovae 1983i and 1983v: Evidence for Abundance Variations in Type Ib Supernovae. *J. C. Wheeler, R. P. Harkness, E. S. Barker, A. L. Cochran, & D. Wills.* 313, L69, 27-C11 (1987)
Ultraviolet and Optical Variations in Active Galactic Nuclei: The Seyfert 1 Galaxy NGC 5548. *W. Wamsteker, P. Rodríguez-Pascual, Beverley J. Wills, H. Netzer, D. Wills, R. Gilmozzi, M. Barylak, A. Talavera, D. Maoz, P. Barr, & A. Heck.* 354, 446, 82-A5 (1990)
WILLSON, L. A. A Comparison between Mass-losing and Standard Solar Models. *Joyce A. Guzik, L. A. Willson, & Wendee M. Brunish.* 319, 957, 105-D5 (1987)
The Effects of Pulsation-extended Atmospheres on the Apparent Diameters of Mira Variables. *T. E. Beach, L. A. Willson, & G. H. Bowen.* 329, 241, 77-F6 (1988)
WILLSON, R. F. The Interstellar Clouds toward 3C 154 and 3C 353. *S. R. Federman, Neal J. Evans II, R. F. Willson, E. Falgarone, F. Combes, & B. M. Scheufele.* 322, 960, 150-D4 (1987)
WILLSON, ROBERT F. Structure of a Solar Active Region from RATAN 600 and Very Large Array Observations. *Sh. B. Akhmedow, V. N. Borovik, G. B. Gelfreikh, V. M. Bogod, A. N. Korzhavin, Z. E. Petrov, V. N. Dikij, Kenneth R. Lang, & Robert F. Willson.* 301, 460, 18-G9 (1986)
Narrow-Band, Slowly Varying Decimetric Radiation from the Dwarf M Flare Star YZ Canis Minoris. *Kenneth R. Lang & Robert F. Willson.* 302, L17, 35-B5 (1986)
Millisecond Radio Spikes from the Dwarf M Flare Star AD Leonis. *Kenneth R. Lang & Robert F. Willson.* 305, 363, 71-B9 (1986)
VLA Observations of Compact, Variable Sources on the Sun. *Robert F. Willson & Kenneth R. Lang.* 308, 443, 112-G7 (1986)
Multiple Wavelength Microwave Observations of the RS Canum Venaticorum Stars UX Arietis, HR 1099, HR 5110, and II Pegasi. *Robert F. Willson & Kenneth R. Lang.* 312, 278, 4-A2 (1987)
VLA Observations of a Solar Noise Storm. *Kenneth R. Lang & Robert F. Willson.* 319, 514, 98-G8 (1987)
Simultaneous *SMM* Flat Crystal Spectrometer and Very Large Array Observations of Solar Active Regions. *Kenneth R. Lang, Robert F. Willson, Kermit L. Smith, & Keith T. Strong.* 322, 1035, 151-C4 (1987)
Solar Active Region Physical Parameters Inferred from a Thermal Cyclotron Line and Soft X-Ray Spectral Lines. *Kenneth R. Lang, Robert F. Willson, Kermit L. Smith, & Keith T. Strong.* 322, 1044, 151-D3 (1987)
Narrow-Band, Slowly Varying Decimetric Radiation from the Dwarf M Flare Star YZ Canis Minoris. II. *Kenneth R. Lang & Robert F. Willson.* 326, 300, 35-D11 (1988)
Ultraviolet and Radio Flares from UX Arietis and HR 1099. *Kenneth R. Lang & Robert F. Willson.* 328, 610, 69-G1 (1988)
Radio Emission from Quiescent Solar Filaments at 91.6 Centimeter Wavelength. *Kenneth R. Lang & Robert F. Willson.* 344, L73, 148-C14 (1989)
Time-correlated Bursts from Widely Separated Solar Active Regions at 91.6 Centimeter Wavelength. *Kenneth R. Lang & Robert F. Willson.* 344, L77, 148-D5 (1989)
Impulsive Microwave Burst and Solar Noise Storm Emission Resolved with the VLA. *Robert F. Willson, Kenneth R. Lang, & Margaret Liggett.* 350, 856, 36-E10 (1990)
Multiple-Wavelength Analysis of Energy Release during a Solar Flare: Thermal and Nonthermal Electron Populations. *Robert F.*

Willson, Karl-Ludwig Klein, Alain Kerdraon, Kenneth R. Lang, & Gerard Trottet. 357, 662, 120-G1 (1990)

WILSON, A. S. Remarkable Emission-Line Profiles in the Seyfert Galaxy ESO 263–G13 (=F427). *A. S. Wilson & J. A. Baldwin.* 302, L7, 35-A7 (1986)

1E 1415.6+2557: An X-Ray–Selected BL Lacertae Object in a Luminous Galaxy. *J. P. Halpern, C. D. Impey, G. D. Bothun, S. Tapia, E. D. Skillman, A. S. Wilson, & E. J. A. Meurs.* 302, 711, 38-D5 (1986)

X-Ray Observations of Supernova Remnants Resembling the Crab Nebula. *A. S. Wilson.* 302, 718, 38-D13 (1986)

Molecular Gas in the Type 1 Seyfert Galaxy NGC 7469: Implications for Nuclear Activity. *T. M. Heckman, S. Beckwith, L. Blitz, M. Skrutskie, & A. S. Wilson.* 305, 157, 68-F2 (1986)

Kinematics and Ionization of Extended Gas in Active Galaxies. II. A Circumnuclear Starburst in the Type 1 Seyfert NGC 7469. *A. S. Wilson, J. A. Baldwin, Sze-Dung Sun, & A. E. Wright.* 310, 121, 133-C14 (1986)

Kinematics and Ionization of Extended Gas in Active Galaxies. III. The Extranuclear Properties of NGC 1068. *J. A. Baldwin, A. S. Wilson, & Mark Whittle.* 319, 84, 94-A3 (1987)

Ionized Gas and Radio Emission in the Barred Seyfert Galaxy NGC 5728. *Robert A. Schommer, Nelson Caldwell, A. S. Wilson, J. A. Baldwin, M. M. Phillips, T. B. Williams, & A. J. Turtle.* 324, 154, 2-F9 (1988)

Kinematics and Ionization of Extended Gas in Active Galaxies. IV. The Seyfert 2 Galaxy NGC 4388. *Michael R. Corbin, J. A. Baldwin, & A. S. Wilson.* 334, 584, 162-G1 (1988)

Kinematics and Ionization of Extended Gas in Active Galaxies. V. The Seyfert Galaxy NGC 5548. *A. S. Wilson, Xuening Wu, T. M. Heckman, J. A. Baldwin, & B. Balick.* 339, 729, 60-G7 (1989)

A Millimeter-Wave Survey of CO Emission in Seyfert Galaxies. *T. M. Heckman, L. Blitz, A. S. Wilson, L. Armus, & G. K. Miley.* 342, 735, 111-E4 (1989)

Extended X-Ray Emission in Nearby Seyfert Galaxies. *Martin Elvis, C. Fassnacht, A. S. Wilson, & U. Briel.* 361, 459, 163-G1 (1990)

A Survey of the Profiles of Narrow Emission Lines in Seyfert Galaxies. *A. S. Wilson & B. Nath.* 74, 731, 40-G7 (1990)

WILSON, ANDREW S. A Radiative Bow Shock Wave (?) Driven by Nuclear Ejecta in a Seyfert Galaxy. *Andrew S. Wilson & James S. Ulvestad.* 319, 105, 94-B11 (1987)

Collimated Nuclear Ejection of Radio-Emitting Plasma in the Seyfert Galaxy NGC 4388. *John L. Stone, Jr., Andrew S. Wilson, & Martin J. Ward.* 330, 105, 91-B9 (1988)

Jet Precession in Active Galaxies High-Resolution Emission-Line Imaging of Seyfert Galaxies. I. Observations. *Nico Roos, Christopher A. Haniff, Andrew S. Wilson, & Martin J. Ward.* 334, 104, 155-D1 (1988)

High-Resolution Emission-Line Imaging of Seyfert Galaxies. II. Evidence for Anisotropic Ionizing Radiation. *Andrew S. Wilson, Martin J. Ward, & Christopher A. Haniff.* 334, 121, 155-E4 (1988)

Radio Structures of Seyfert Galaxies. VII. Extension of a Distance-limited Sample. *James S. Ulvestad & Andrew S. Wilson.* 343, 659, 127-D2 (1989)

The Extended Narrow-Line Region in NGC 4151. *Ismael Pérez-Fournon & Andrew S. Wilson.* 356, 456, 105-G13 (1990)

Accretion Tori and Cones of Ionizing Radiation in Seyfert Galaxies. *José A. Acosta-Pulido, Ismael Pérez-Fournon, Massimo Calvani, & Andrew S. Wilson.* 365, 119, 207-E1 (1990)

WILSON, B. G. Reexamination of the Metal Contribution to Astrophysical Opacity. *C. A. Iglesias, F. J. Rogers, & B. G. Wilson.* 322, L45, 145-D2 (1987)

Opacities for Classical Cepheid Models. *C. A. Iglesias, F. J. Rogers, & B. G. Wilson.* 360, 221, 147-F10 (1990)

WILSON, C. VHE Gamma Rays from Hercules X-1. *L. K. Resvanis, A. Szentgyorgyi, J. Hudson, L. Kelley, J. G. Learned, C. Sinnis, V. Stenger, D. D. Weeks, J. Gaidos, M. Kertzman, F. Loeffler, T. Palfrey, G. Sembroski, C. Wilson, U. Camerini, J. P. Finley, W. Fry, J. Jennings, A. Kenter, M. Lomperski, R. Loveless, R. March, J. Matthews, R. Morse, D. Reeder, & P. Slane.* 328, L9, 66-D10 (1988)

WILSON, C. D. Interferometric Observations of 1.4 Millimeter Continuum Sources. *D. P. Woody, S. L. Scott, N. Z. Scoville, L. G. Mundy, A. I. Sargent, S. Padin, C. G. Tinney, & C. D. Wilson.* 337, L41, 25-D5 (1989)

WILSON, CHRISTINE. A Nova-like Red Variable in M31. *Jeremy Mould, Judith Cohen, James R. Graham, Don Hamilton, Keith Matthews, Alain Picard, Neill Reid, Maarten Schmidt, Tom Soifer, Christine Wilson, R. Michael Rich, & James Gunn.* 353, L35, 73-A10 (1990)

WILSON, CHRISTINE D. Observations of Individual Star-forming Regions in the Nucleus of M33. *Christine D. Wilson, Nick Scoville, Wendy L. Freedman, Barry F. Madore, & D. B. Sanders.* 333, 611, 146-F8 (1988)

The Molecular Gas Content of the Nuclear Region of M33. *Christine D. Wilson & Nick Scoville.* 347, 743, 192-E7 (1989)

The Properties of Individual Giant Molecular Clouds in M33. *Christine D. Wilson & Nick Scoville.* 363, 435, 189-E1 (1990)

WILSON, J. R. Resonant Neutrino Oscillations and Stellar Collapse. *G. M. Fuller, R. W. Mayle, J. R. Wilson, & D. N. Schramm.* 322, 795, 148-E3 (1987)

The Majoron Model and Stellar Collapse. *G. M. Fuller, R. Mayle, & J. R. Wilson.* 332, 826, 133-D14 (1988)

WILSON, J. W. $1s^2\ ^1S$–$1s\,np\ ^1P$ Transitions of the Helium Isoelectronic Sequence Members Up to $Z = 30$. *F. Khan, G. S. Khandelwal, & J. W. Wilson.* 329, 493, 80-E5 (1988)

An Asymptotic Expression for the Dipole Oscillator Strength for Transitions of the He Sequence. *G. S. Khandelwal, F. Khan, & J. W. Wilson.* 336, 504, 7-D10 (1989)

WILSON, JAMES R. Gravitational Collapse and the Cosmic Antineutrino Background. *S. E. Woosley, James R. Wilson, & Ron Mayle.* 302, 19, 28-B11 (1986)

Neutrinos from Gravitational Collapse. *Ron Mayle, James R. Wilson, & David N. Schramm.* 318, 288, 82-A11 (1987)

Supernovae from Collapse of Oxygen-Magnesium-Neon Cores. *Ron Mayle & James R. Wilson.* 334, 909, 166-D7 (1988)

WILSON, JOHN W. A Study of the Eclipsing Cataclysmic Variable Lanning 90. *Peter M. Garnavich, Paula Szkody, Mario Mateo, Laurie Feinswog, John Booth, Bret Goodrich, H. Richard Miller, Michael T. Carini, & John W. Wilson.* 365, 696, 216-G13 (1990)

WILSON, R. B. High-Resolution Observations of Gamma-Ray Line Emission from SN 1987A. *W. G. Sandie, G. H. Nakano, L. F. Chase, Jr., G. J. Fishman, C. A. Meegan, R. B. Wilson, W. S. Paciesas, & G. P. Lasche.* 334, L91, 169-E2 (1988)

WILSON, R. E. A Critical Examination of Thick Disks with Equatorial Accretion. *J. H. Hunter, Jr., & R. E. Wilson.* 302, 11, 28-B3 (1986)

The Restricted Four-Body Problem and Epsilon Aurigae. *W. Van Hamme & R. E. Wilson.* 306, L33, 86-C5 (1986)

Close Binary Mass Anomalies and Metallicity. *W. Van Hamme & R. E. Wilson.* 307, 151, 96-F6 (1986)

A Critical Examination of Thick Disks with Equatorial Accretion: Erratum. *J. H. Hunter, Jr., & R. E. Wilson.* 308, 1018, 120-B12 (1986) (Orig. paper in 302, 11, 28-B3 (1986))

RW Comae Berenices. III. Light Curve Solution and Absolute Parameters. *E. F. Milone, R. E. Wilson, & B. J. Hrivnak.* 319, 325, 96-E3 (1987)

Accuracy and Efficiency in the Binary Star Reflection Effect. *R. E. Wilson.* 356, 613, 107-G6 (1990)

WILSON, R. W. Molecules in Galaxies. VI. Diffuse and Dense Cloud Contributions to the Large-Scale CO Emission of the Galaxy. *K. S. Polk, G. R. Knapp, A. A. Stark, & R. W. Wilson.* 332, 432, 127-G5 (1988)

Infrared Limb Brightening in the Barnard 5 Cloud. *C. A. Beichman, R. W. Wilson, W. D. Langer, & P. F. Goldsmith.* 332, L81, 137-D10 (1988)

Dust and Gas Emission in Barnard 5. *W. D. Langer, R. W. Wilson, P. F. Goldsmith, & C. A. Beichman.* 337, 355, 21-F10 (1989)

Subparsec Clumping in the Nearby Molecular Cloud MBM 12. *Marc W. Pound, T. M. Bania, & R. W. Wilson.* 351, 165, 40-B1 (1990)

WILSON, ROBERT. Lyman-α Emission in Star-forming Galaxies. *Lee W. Hartmann, John P. Huchra, Margaret J. Geller, Paul O'Brien, & Robert Wilson.* 326, 101, 33-B11 (1988)

WILSON, ROBERT M. Solar Rotation and the Sunspot Cycle. *David H. Hathaway & Robert M. Wilson.* 357, 271, 114-D6 (1990)

WILSON, ROBERT W. A Search for the Sunyaev-Zel'dovich Effect at $\lambda = 3$ Millimeters. *Simon J. E. Radford, Paul E. Boynton, Bobby L.*

Ulich, R. Bruce Partridge, Robert A. Schommer, Antony A. Stark, Robert W. Wilson, & Stephen S. Murray. 300, 159, 2-F13 (1986)
Molecular Outflows, Gas Density Distribution, and the Effects of Star Formation in the Dark Cloud Barnard 5. *Paul F. Goldsmith, William D. Langer, & Robert W. Wilson.* 303, L11, 47-B2 (1986)
Multiple Star Formation and the Dynamical Evolution of B335. *William D. Langer, Margaret A. Frerking, & Robert W. Wilson.* 306, L29, 86-C1 (1986)
Molecules in Galaxies. III. The Virgo Cluster. *Antony A. Stark, G. R. Knapp, John Bally, Robert W. Wilson, Arno A. Penzias, & Harrison E. Rowe.* 310, 660, 141-B8 (1986)
Filamentary Structure in the Orion Molecular Cloud. *John Bally, William D. Langer, Antony A. Stars, & Robert W. Wilson.* 312, L45, 14-B12 (1987)
The Structure and Dynamics of Bok Globule B335. *Margaret A. Frerking, William D. Langer, & Robert W. Wilson.* 313, 320, 18-D10 (1987)
Galactic Center Molecular Clouds. I. Spatial and Spatial Velocity Maps. *John Bally, Antony A. Stark, Robert W. Wilson, & Christian Henkel.* 65, 13, 28-B2 (1987)
Radio Observations of Carbon Monoxide toward Zeta Ophiuchi: Velocity Structure, Isotopic Abundances, and Physical Properties. *William D. Langer, Alfred E. Glassgold, & Robert W. Wilson.* 322, 450, 142-G9 (1987)
Galactic Center Molecular Clouds. II. Distribution and Kinematics. *John Bally, Antony A. Stark, Robert W. Wilson, & Christian Henkel.* 324, 223, 3-E8 (1988)
WILSON, T. D. The Near-Infrared Morphology of Ultraluminous Infrared Galaxies. *David P. Carico, James R. Graham, K. Matthews, T. D. Wilson, B. T. Soifer, G. Neugebauer, & D. B. Sanders.* 349, L39, 24-B1 (1990)
The Double Nucleus of Arp 220 Unveiled. *James R. Graham, D. P. Carico, K. Matthews, G. Neugebauer, B. T. Soifer, & T. D. Wilson.* 354, L5, 80-A12 (1990)
WILSON, T. L. VLA Maps of Formaldehyde Absorption toward NGC 2024. *Richard M. Crutcher, C. Henkel, T. L. Wilson, K. J. Johnston, & J. H. Bieging.* 307, 302, 98-C12 (1986)
Measurements of the ^{3}He Abundance in the Interstellar Medium. *T. M. Bania, Robert T. Rood, & T. L. Wilson.* 323, 30, 153-D3 (1987)
Formaldehyde Observations of Giant Molecular Clouds. *E. James Wadiak, R. T. Rood, & T. L. Wilson.* 324, 931, 13-F6 (1988)
High-Resolution VLA Observations of the W3(OH) Methanol Masers. *K. M. Menten, K. J. Johnston, E. J. Wadiak, C. M. Walmsley, & T. L. Wilson.* 331, L41, 114-D5 (1988)
VLBI Observations of 12 GHz Methanol Masers. *K. M. Menten, M. J. Reid, J. M. Moran, T. L. Wilson, K. J. Johnston, & W. Batrla.* 333, L83, 152-F1 (1988)
Observations of the ^{13}C Isomers of Cyanoacetylene: Implications for Carbon Isotope Studies in the Milky Way. *Jeffrey G. Mangum, Robert T. Rood, E. James Wadiak, & T. L. Wilson.* 334, 182, 156-C9 (1988)
Improved Estimates of Galactic H II Region Emission Measures and Filling Factors: Low-Frequency VLA Observations near Sharpless 53. *Namir E. Kassim, Kurt W. Weiler, William C. Erickson, & T. L. Wilson.* 338, 152, 34-G9 (1989)
H_2CO Maps of High-Density Molecular Fragments 3′ North of Orion-KL. *T. L. Wilson & K. J. Johnston.* 340, 894, 79-E1 (1989)
VLA Observations of the $^{15}NH_3$ Maser Associated with NGC 7538 IRS 1. *K. J. Johnston, S. R. Stolovy, T. L. Wilson, C. Henkel, & R. Mauersberger.* 343, L41, 132-B5 (1989)
The Distribution and Kinematics of Ammonia in the Orion-KL Nebula: High-Sensitivity VLA Maps of the NH_3(3,2) Line. *V. Migenes, K. J. Johnston, T. A. Pauls, & T. L. Wilson.* 347, 294, 185-F8 (1989)
A New Bipolar Outflow Source in OMC-1. *L. M. Ziurys, T. L. Wilson, & R. Mauersberger.* 356, L25, 103-D5 (1990)
A Highly Collimated Outflow in the Core of OMC-1. *J. Schmid-Burgk, R. Güsten, R. Mauersberger, A. Schulz, & T. L. Wilson.* 362, L25, 174-C11 (1990)
WILSON, TERESA D. Observational Studies of Cepheids. VIII. Additional Radial Velocities of Cepheids and RR Lyrae Variables. *Teresa D. Wilson, Michael W. Carter, Thomas G. Barnes III, G. Wayne Van Citters, Jr., & Thomas J. Moffett.* 69, 951, 15-D3 (1989)
WILSON, W. J. F. The Size of Convective Cores in Rotating Stellar Models. *S. R. Sreenivasan & W. J. F. Wilson.* 341, 939, 96-G1 (1989)
WINCEL, H. Novel Chemical Role for Polycyclic Aromatic Hydrocarbons in the Synthesis of Interstellar Molecules. *D. K. Bohme, S. Wlodek, & H. Wincel.* 342, L91, 117-E11 (1989)
WINDHORST, ROGIER A. 6 Centimeter Radio Source Counts and Spectral Index Studies Down to 0.1 Millijansky. *R. Hank Donnelly, R. Bruce Partridge, & Rogier A. Windhorst.* 321, 94, 123-B9 (1987)
WING, ROBERT F. The Ultraviolet Spectrum of Noncoronal Late-Type Stars: The Gamma Crucis (M3.4 III) Reference Spectrum. *Kenneth G. Carpenter, Joseph E. Pesce, Robert E. Stencel, Alexander Brown, Sveneric Johansson, & Robert F. Wing.* 68, 345, 28-B7 (1988)
WINGET, D. E. Evolutionary Period Changes in Variable Helium-rich White Dwarfs. *Steven D. Kawaler, D. E. Winget, Icko Iben, Jr., & C. J. Hansen.* 302, 530, 36-C12 (1986)
The Detection of Photospheric X-Ray Pulsations from PG 1159–035 with *EXOSAT*. *M. A. Barstow, J. B. Holberg, Albert D. Grauer, & D. E. Winget.* 306, L25, 86-B11 (1986)
The Helium Shell Game: Nonradial *g*-Mode Instabilities in Hydrogen-deficient Planetary Nebula Nuclei. *Steven D. Kawaler, D. E. Winget, C. J. Hansen, & Icko Iben, Jr.* 306, L41, 86-C13 (1986)
Temperatures for Hot and Pulsating DB White Dwarfs Obtained with the *IUE* Observatory. *James Liebert, F. Wesemael, C. J. Hansen, G. Fontaine, Harry L. Shipman, Edward M. Sion, D. E. Winget, & Richard F. Green.* 309, 241, 122-E7 (1986)
The Exotic Helium Variable PG 1346+082. *M. A. Wood, D. E. Winget, R. E. Nather, Frederic V. Hessman, James Liebert, Donald W. Kurtz, F. Wesemael, & G. Wegner.* 313, 757, 25-B1 (1987)
An Independent Method for Determining the Age of the Universe. *D. E. Winget, C. J. Hansen, James Liebert, H. M. Van Horn, G. Fontaine, R. E. Nather, S. O. Kepler, & D. Q. Lamb.* 315, L77, 49-B1 (1987)
Two Extreme Examples of Compact Pulsators: PG 1115+158 and PG 1351+489. *D. E. Winget, R. E. Nather, & J. Allen Hill.* 316, 305, 53-C11 (1987)
Evolutionary Models for Pulsation Studies of White Dwarfs. *M. Tassoul, G. Fontaine, & D. E. Winget.* 72, 335, 6-F9 (1990)
An Observational Limit to the Evolutionary Time Scale of the 13,000 K White Dwarf G117-B15A. *S. O. Kepler, G. Vauclair, N. Dolez, M. Chevreton, M. A. Barstow, R. E. Nather, D. E. Winget, J. L. Provencal, J. C. Clemens, & G. Fontaine.* 357, 204, 113-E7 (1990)
Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)
The White Dwarf Luminosity Function: A Possible Probe of the Galactic Halo. *Christopher M. Tamanaha, Joseph Silk, M. A. Wood, & D. E. Winget.* 358, 164, 124-A12 (1990)
The Whole Earth Telescope: A New Astronomical Instrument. *R. E. Nather, D. E. Winget, J. C. Clemens, C. J. Hansen, & B. P. Hine.* 361, 309, 160-F11 (1990)
WINGLEE, R. M. The Electron-Cyclotron Maser Instability as a Source of Plasma Radiation. *R. M. Winglee & G. A. Dulk.* 307, 808, 105-G2 (1986)
The Electron-Cyclotron Maser Instability as the Source of Solar Type V Continuum. *R. M. Winglee & G. A. Dulk.* 310, 432, 136-F3 (1986)
Energy Transport by Energetic Electrons Released during Solar Flares. I. Thermal versus Nonthermal Processes. *R. M. Winglee, P. L. Pritchett, & G. A. Dulk.* 327, 968, 59-D12 (1988)
Fine Structure of Microwave Spike Bursts and Associated Cross-Field Energy Transport. *R. M. Winglee, G. A. Dulk, & P. L. Pritchett.* 328, 809, 72-A1 (1988)
Energy Transport by Energetic Electrons Released during Solar Flares. II. Current Filamentation and Plasma Heating. *R. M. Winglee, P. L. Pritchett, & G. A. Dulk.* 329, 440, 80-A1 (1988)

Heating and Acceleration of Heavy Ions during Solar Flares. *R. M. Winglee.* 343, 511, 124-D3 (1989)

Modeling Solar Flare Conduction Fronts. I. Homogeneous Plasmas and Ion-acoustic Turbulence. *M. E. McKean, R. M. Winglee, & G. A. Dulk.* 364, 295, 197-F5 (1990)

Modeling Solar Flare Conduction Fronts. II. Inhomogeneous Plasmas and Ambipolar Electric Fields. *M. E. McKean, R. M. Winglee, & G. A. Dulk.* 364, 302, 197-G1 (1990)

WINGLEE, ROBERT M. A Search for Cyclotron Maser Radiation from Substellar and Planet-like Companions of Nearby Stars. *Robert M. Winglee, George A. Dulk, & Timothy S. Bastian.* 309, L59, 125-G7 (1986)

WINKLER, P. FRANK. High-Velocity Emission in Young Supernova Remnants: SN 1006 and SN 1572. *Robert P. Kirshner, P. Frank Winkler, & Roger A. Chevalier.* 315, L135, 49-F3 (1987)

The Penultimate Supernova in the Large Magellanic Cloud: SNR 0540–69.3. *Robert P. Kirshner, Jon A. Morse, P. Frank Winkler, & William P. Blair.* 342, 260, 104-B1 (1989)

An Atlas of Confirmed and Candidate Supernova Remnants in M33. *Knox S. Long, William P. Blair, Robert P. Kirshner, & P. Frank Winkler.* 72, 61, 2-B1 (1990)

WINTERS, R. R. ^{148,150}Sm: A Test for *s*-Process Nucleosynthesis. *R. R. Winters, F. Käppeler, K. Wisshak, A. Mengoni, & G. Reffo.* 300, 41, 1-D5 (1986)

Maxwellian-averaged Neutron Capture Cross Sections for ^{99}Tc and $^{95-98}$Mo. *R. R. Winters & R. L. Macklin.* 313, 808, 25-E10 (1987)

Resonance Neutron Capture by ^{20,22}Ne in Stellar Environments. *R. R. Winters & R. L. Macklin.* 329, 943, 87-D5 (1988)

WIRSICH, J. Photodestruction Rates in the Circumstellar Shell of Alpha Orionis by Chromospheric Radiation. *J. Wirsich.* 331, 463, 111-D9 (1988)

WISCHNJEWSKY, MARINA. ER 8: A Very Low Luminosity Degenerate Star. *Marta Teresa Ruiz, José Maza, Marina Wischnjewsky, & Luis E. González.* 304, L25, 61-B12 (1986)

Calán-Tololo Survey. I. Seyfert 1 Galaxies. *José Maza, Marta Teresa Ruiz, Luis E. González, & Marina Wischnjewsky.* 69, 349, 6-B1 (1989)

WISE, M. B. Coupling of Modes of Cosmological Mass Density Fluctuations. *M. H. Goroff, B. Grinstein, S.-J. Rey, & M. B. Wise.* 311, 6, 146-A12 (1986)

WISE, MARK B. The Significance of Voids. *S. Otto, H. David Politzer, John Preskill, & Mark B. Wise.* 304, 62, 54-E11 (1986)

Non-Gaussian Fluctuations and the Correlations of Galaxies or Rich Clusters of Galaxies. *Benjamin Grinstein & Mark B. Wise.* 310, 19, 132-C1 (1986)

Interpretation of Large-Scale Deviations from the Hubble Flow. *B. Grinstein, H. David Politzer, S.-J. Rey, & Mark B. Wise.* 314, 431, 34-C1 (1987)

On the Validity of the Zel'dovich Approximation. *Benjamin Grinstein & Mark B. Wise.* 320, 448, 114-C11 (1987)

On the Validity of the Zel'dovich Approximation: Erratum. *Benjamin Grinstein & Mark B. Wise.* 337, 579, 24-F5 (1989) (Orig. paper in 320, 448, 114-C11 (1987))

WISE, MICHAEL. Gravothermal Oscillations after Core Collapse in Globular Cluster Evolution. *Haldan Cohn, Piet Hut, & Michael Wise.* 342, 814, 112-E1 (1989)

WISE, MICHAEL W. Charge Transfer and X-Ray Emission from Supernova Remnants. *Michael W. Wise & Craig L. Sarazin.* 345, 384, 154-A1 (1989)

Electron Scattering and the Distances to Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 363, 344, 188-D1 (1990)

WIŚNIEWSKI, W. Z. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Observations of Three BL Lacertae Objects: Constraints on Inhomogeneous Relativistically Beamed Jet Models. *D. M. Worrall, J. M. Rodríguez-Espinosa, W. Z. Wiśniewski, H. R. Miller, F. C. Bruhweiler, M. F. Aller, & H. D. Aller.* 303, 589, 49-A2 (1986)

Simultaneous Multifrequency Observations of the BL Lacertae Object Markarian 421. *F. Makino, Y. Tanaka, M. Matsuoka, K. Koyama, H. Inoue, K. Makishima, R. Hoshi, S. Hayakawa, Y. Kondo, C. M. Urry, S. L. Mufson, K. R. Hackney, R. L. Hackney, S. Kikuchi, Y. Mikami, W. Z. Wiśniewski, N. Hiromoto, M. Nishida, J. Burnell, P. Brand, P. M. Williams, M. G. Smith, F. Takahara, M. Inoue, M. Tsuboi, H. Tabara, T. Kato, M. F. Aller, & H. D. Aller.* 313, 662, 24-A12 (1987)

Multifrequency Observations of BL Lacertae. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. H. Elias, J. R. Webb, J. T. Pollock, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. A. Hughes, D. Maccagni, B. Garilli, P. Giommi, J. S. Miller, S. Stephens, T. J. Balonek, W. A. Dent, W. Kinsel, W. Z. Wiśniewski, P. M. Williams, P. W. J. L. Brand, & W. H.-M. Ku.* 352, 574, 58-B7 (1990)

An Evolving Relativistic Jet Model for the BL Lacertae Object Markarian 421. *S. L. Mufson, D. J. Hutter, Y. Kondo, C. M. Urry, & W. Z. Wiśniewski.* 354, 116, 75-D9 (1990)

WIŚNIEWSKI, WIESLAW Z. The Guide Star Photometric Catalog. I. *Barry M. Lasker, Conrad R. Sturch, Carlos Lopez, Anthony D. Mallamas, Steven F. McLaughlin, Jane L. Russell, Wieslaw Z. Wiśniewski, Bruce A. Gillespie, Helmut Jenkner, Elizabeth D. Siciliano, Deborah Kenny, John H. Baumert, Alan M. Goldberg, Gregory W. Henry, Edward Kemper, & Michael J. Siegel.* 68, 1, 20-B1 (1988)

WISSHAK, K. ^{148,150}Sm: A Test for *s*-Process Nucleosynthesis. *R. R. Winters, F. Käppeler, K. Wisshak, A. Mengoni, & G. Reffo.* 300, 41, 1-D5 (1986)

WITEBSKY, C. The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 325, 1, 19-A7 (1988)

The Temperature of the Cosmic Microwave Background Radiation at a Frequency of 10 GHz: Erratum. *A. Kogut, M. Bersanelli, G. De Amici, S. D. Friedman, M. Griffith, B. Grossan, S. Levin, G. F. Smoot, & C. Witebsky.* 332, 1092, 136-D8 (1988) (Orig. paper in 325, 1, 19-A7 (1988))

A Measurement of the Cosmic Microwave Background Radiation Temperature at 1.410 GHz. *S. M. Levin, C. Witebsky, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, & G. F. Smoot.* 334, 14, 154-B9 (1988)

A Measurement of the Temperature of the Cosmic Microwave Background at a Frequency of 7.5 GHz. *A. Kogut, M. Bensadoun, G. De Amici, S. Levin, G. F. Smoot, & C. Witebsky.* 355, 102, 88-C6 (1990)

WITEBSKY, CHRIS. New Measurements of the Cosmic Background Radiation Temperature at 3.3 Millimeter Wavelength. *Chris Witebsky, George Smoot, Giovanni De Amici, & Scott D. Friedman.* 310, 145, 133-E10 (1986)

Long-Wavelength Measurements of the Cosmic Microwave Background Radiation Spectrum. *George F. Smoot, Marc Bensadoun, Marco Bersanelli, Giovanni De Amici, Alan Kogut, Steve Levin, & Chris Witebsky.* 317, L45, 78-A9 (1987)

Measurement of the Intensity of the Cosmic Background Radiation at 3.7 GHz. *Giovanni De Amici, George F. Smoot, Jon Aymon, Marco Bersanelli, Al Kogut, Steven M. Levin, & Chris Witebsky.* 329, 556, 82-F8 (1988)

An Analysis of Recent Measurements of the Temperature of the Cosmic Microwave Background Radiation. *George Smoot, Steven M. Levin, Chris Witebsky, Giovanni De Amici, & Yoel Rephaeli.* 331, 653, 116-A6 (1988)

Measurements of the Cosmic Microwave Background Radiation Temperature at 90 GHz. *Marco Bersanelli, Chris Witebsky, Marc Bensadoun, Giovanni De Amici, Al Kogut, Steven M. Levin, & George F. Smoot.* 339, 632, 59-F7 (1989)

The Temperature of the Cosmic Background Radiation: Results from the 1987 and 1988 Measurements at 3.8 GHz. *Giovanni De Amici, Marc Bensadoun, Marco Bersanelli, Al Kogut, Steve Levin, George F. Smoot, & Chris Witebsky.* 359, 219, 136-G1 (1990)

WITHBROE, GEORGE L. Solar Coronal Bright Points Observed with the VLA. *Shadia R. Habbal, Robert S. Ronan, George L. Withbroe,*

Raghunath K. Shevgaonkar, & Mukul R. Kundu. 306, 740, 92-E12 (1986)

Analysis of Coronal H I Lyman-Alpha Measurements in a Polar Region of the Sun Observed in 1979. *George L. Withbroe, John L. Kohl, & Heinz Weiser.* 307, 381, 99-C5 (1986)

Solar Wind Diagnostics from Doppler-enhanced Scattering. *Giancarlo Noci, John L. Kohl, & George L. Withbroe.* 315, 706, 48-D1 (1987)

The Temperature Structure, Mass, and Energy Flow in the Corona and Inner Solar Wind. *George L. Withbroe.* 325, 442, 24-A9 (1988)

The Solar Wind Mass Flux. *George L. Withbroe.* 337, L49, 25-E1 (1989)

A Comparison between Bright Points in a Coronal Hole and a Quiet-Sun Region. *Shadia Rifai Habbal, James F. Dowdy, Jr., & George L. Withbroe.* 352, 333, 54-A1 (1990)

WITT, A. N. Ultraviolet Spectra of HH 1 and HH 2: Spatial Variations and the Continuum Problem. *K.-H. Böhm, Th. Bührke, A. C. Raga, E. W. Brugel, A. N. Witt, & R. Mundt.* 316, 349, 53-G7 (1987)

The Unusual Dust-Scattering Properties in the Reflection Nebula CED 201. *A. N. Witt, R. C. Bohlin, T. P. Stecher, & S. M. Graff.* 321, 912, 134-E1 (1987)

The Spatial Distribution of Extended Red Emission in the Planetary Nebula NGC 7027. *D. G. Furton & A. N. Witt.* 364, L45, 205-E1 (1990)

WITT, ADOLF. Interstellar Gas and Large Grains toward HD 38087. *Theodore P. Snow & Adolf Witt.* 342, 295, 104-E3 (1989)

WITT, ADOLF N. Colors of Reflection Nebulae. III. Ultraviolet Scattering by Small Particles in Reflection Nebulae Associated with 17, 20, and 23 Tauri. *Adolf N. Witt, Ralph C. Bohlin, & Theodore P. Stecher.* 302, 421, 32-G7 (1986)

Detection of Scattering in the 2175 Å Interstellar Band. *Adolf N. Witt, Ralph C. Bohlin, & Theodore P. Stecher.* 305, L23, 74-B11 (1986)

CCD Surface Photometry of Bright Reflection Nebulae. *Adolf N. Witt & Rudolph E. Schild.* 62, 839, 42-E2 (1986)

Hydrogenated Amorphous Carbon Grains in Reflection Nebulae. *Adolf N. Witt & Rudolph E. Schild.* 325, 837, 29-F6 (1988)

UV Fluorescence of Molecular Hydrogen and Red Dust Emission in the Gamma Cassiopeiae Nebulae IC 63. *Adolf N. Witt, Theodore P. Stecher, Todd A. Boroson, & Ralph C. Bohlin.* 336, L21, 8-D2 (1989)

The Extended Red Emission Filaments in NGC 2023. *Adolf N. Witt & David F. Malin.* 347, L25, 189-D1 (1989)

Spectroscopy of Extended Red Emission in Reflection Nebulae. *Adolf N. Witt & Todd A. Boroson.* 355, 182, 89-B12 (1990)

WITTEBORN, F. C. Multifrequency Observations of the Superluminal Quasar 3C 345. *Joel N. Bregman, A. E. Glassgold, P. J. Huggins, G. Neugebauer, B. T. Soifer, K. Matthews, J. Elias, J. Webb, J. T. Pollock, A. J. Pica, R. J. Leacock, A. G. Smith, H. D. Aller, M. F. Aller, P. E. Hodge, W. A. Dent, T. J. Balonek, R. E. Barvainis, T. P. L. Roellig, W. Z. Wiśniewski, G. H. Rieke, M. J. Lebofsky, B. J. Wills, D. Wills, W. H.-M. Ku, Jesse D. Bregman, F. C. Witteborn, D. F. Lester, C. D. Impey, & J. A. Hackwell.* 301, 708, 23-C13 (1986)

Infrared Observations of SN 1987A from 5.3 to 12.6 Microns: Evidence for an Early Dust Echo. *D. M. Rank, J. Bregman, F. C. Witteborn, M. Cohen, D. K. Lynch, & R. W. Russell.* 325, L1, 25-A4 (1988)

Spectral Line Profiles of Nickel and Argon in Supernova 1987A: Expansion Velocity and Electron Scattering Effects. *F. C. Witteborn, J. D. Bregman, D. H. Wooden, P. A. Pinto, D. M. Rank, S. E. Woosley, & M. Cohen.* 338, L9, 40-C1 (1989)

Infrared Emission from Comets. *K. S. Krishna Swamy, S. A. Sandford, L. J. Allamandola, F. C. Witteborn, & J. D. Bregman.* 340, 537, 73-G11 (1989)

New Emission Features in the 11–13 Micron Region and Their Relationship to Polycyclic Aromatic Hydrocarbons. *F. C. Witteborn, S. A. Sandford, J. D. Bregman, L. J. Allamandola, M. Cohen, D. H. Wooden, & A. L. Graps.* 341, 270, 87-C5 (1989)

The Infrared Emission Bands. II. A Spatial and Spectral Study of the Orion Bar. *J. D. Bregman, L. J. Allamandola, A. G. G. M. Tielens, T. R. Geballe, & F. C. Witteborn.* 344, 791, 144-B1 (1989)

The Discovery of a New Infrared Emission Feature at 1905 Wavenumbers (5.25 Microns) in the Spectrum of BD +30°3639 and Its Relation to the Polycyclic Aromatic Hydrocarbon Model. *L. J. Allamandola, J. D. Bregman, S. A. Sandford, A. G. G. M. Tielens, F. C. Witteborn, D. H. Wooden, & D. Rank.* 345, L59, 157-F1 (1989)

Hydrocarbon Emission Features in the Infrared Spectra of Warm Supergiants. *R. H. Buss, Jr., M. Cohen, A. G. G. M. Tielens, M. W. Werner, J. D. Bregman, F. C. Witteborn, D. Rank, & S. A. Sandford.* 365, L23, 212-C6 (1990)

WITTEBORN, FRED C. The Infrared Emission Bands. I. Correlation Studies and the Dependence on C/O Ratio. *Martin Cohen, Lou Allamandola, A. G. G. M. Tielens, Jesse Bregman, J. P. Simpson, Fred C. Witteborn, Diane Wooden, & Dave Rank.* 302, 737, 38-F10 (1986)

3 Micron Spectrophotometry of Comet Halley: Evidence for Water Ice. *Jesse D. Bregman, A. G. G. M. Tielens, Fred C. Witteborn, David M. Rank, & Diane Wooden.* 334, 1044, 168-A11 (1988)

The Infrared Emission Bands. III. Southern *IRAS* Sources. *Martin Cohen, A. G. G. M. Tielens, Jesse Bregman, Fred C. Witteborn, David M. Rank, L. J. Allamandola, Dianne Wooden, & M. de Muizon.* 341, 246, 87-A7 (1989)

WITZEL, A. High Dynamic Range VLBI Observations of NGC 6251. *Dayton L. Jones, S. C. Unwin, A. C. S. Readhead, W. L. W. Sargent, G. A. Seielstad, R. S. Simon, R. C. Walker, J. M. Benson, R. A. Perley, A. H. Bridle, I. I. K. Pauliny-Toth, J. Romney, A. Witzel, P. N. Wilkinson, L. B. Bååth, R. S. Booth, D. N. Fort, J. A. Galt, R. L. Mutel, & R. P. Linfield.* 305, 684, 76-D1 (1986)

1928+738: A Superluminal Source with Large-Scale Structure. *K. J. Johnston, R. S. Simon, A. Eckart, P. Biermann, C. Schalinski, A. Witzel, & R. G. Strom.* 313, L85, 27-D11 (1987)

Further 7 Millimeter VLBI Observations of 3C 84 and Other Sources with 100 Microarcsecond Angular Resolution. *V. Dhawan, N. Bartel, A. E. E. Rogers, T. P. Krichbaum, A. Witzel, D. A. Graham, I. I. K. Pauliny-Toth, B. O. Rönnäng, H. Hirabayashi, M. Inoue, C. R. Lawrence, I. I. Shapiro, B. F. Burke, R. S. Booth, A. C. S. Readhead, M. Morimoto, K. J. Johnston, J. H. Spencer, & J. M. Marcaide.* 360, L43, 156-C7 (1990)

WITZEL, ARNO. High-Resolution Radio Observations of the Most Luminous Quasar. *Helmut Kühr, John T. Stocke, Peter A. Strittmatter, Norbert Bartel, Andreas Eckart, Cornelius Schalinski, Arno Witzel, & Peter Biermann.* 302, 52, 28-E5 (1986)

WLODEK, S. Novel Chemical Role for Polycyclic Aromatic Hydrocarbons in the Synthesis of Interstellar Molecules. *D. K. Bohme, S. Wlodek, & H. Wincel.* 342, L91, 117-E11 (1989)

WOFFORD, J. B. *IUE* Observations of the Interstellar Medium toward β Geminorum. *J. Murthy, J. B. Wofford, R. C. Henry, H. W. Moos, A. Vidal-Madjar, J. L. Linsky, & C. Gry.* 336, 949, 14-C6 (1989)

WOLF, EMIL. Shifts of Spectral Lines Caused by Scattering from Fluctuating Random Media. *Daniel F. V. James, Malcolm P. Savedoff, & Emil Wolf.* 359, 67, 134-G5 (1990)

WOLF, JÜRGEN. Observations of Fe II (26.0 Microns) in SN 1987A. *Edwin F. Erickson, Michael R. Haas, Sean W. J. Colgan, Steven D. Lord, Michael G. Burton, Jürgen Wolf, David J. Hollenbach, & Michael Werner.* 330, L39, 96-F7 (1988)

WOLF, K. Radiative Transfer in Fast-moving Media: The Limit of the Diffusion Approximation. *A. Rebetzky, H. Herold, U. Kraus, T. Maile, H. Ruder, & K. Wolf.* 344, L33, 140-C13 (1989)

WOLFE, A. M. The Effect of a Quasi-stellar Object on Its Host Galaxy: Dynamical and Physical Processes in the Interstellar Medium around a Quasi-stellar Object. *C. A. Chang, A. V. R. Schiano, & A. M. Wolfe.* 322, 180, 139-G8 (1987)

The Spatial Extent of the $z = 2.04$ Absorber in the Spectrum of PKS 0458−020. *F. H. Briggs, A. M. Wolfe, H. S. Liszt, M. M. Davis, & K. L. Turner.* 341, 650, 93-C5 (1989)

The Hydrodynamic Collapse of Protogalaxies to Lyα Disks. *A. V. R. Schiano, A. M. Wolfe, & C. A. Chang.* 365, 439, 213-D10 (1990)

WOLFE, ARTHUR M. Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. I. The Lick Survey. *Arthur M. Wolfe, David A. Turnshek, Harding E. Smith, & Ross D. Cohen.* 61, 249, 20-C7 (1986)

An Absorption-Line Survey of 32 QSOs at Red Wavelengths: Properties of the Mg II Absorbers. *Kenneth M. Lanzetta, David A. Turnshek, & Arthur M. Wolfe.* 322, 739, 148-A2 (1987)

Probing Extragalactic Disks—Limits on the Size and Mass of the "Local" Lyman Alpha Disk toward 3CR 196. *Craig B. Foltz, Frederic H. Chaffee, Jr., & Arthur M. Wolfe.* 335, 35, 170-E1 (1988)

A Search for Molecular Hydrogen and Dust in the $z = 2.796$ Damped Lyα Absorber toward Q1337+113. *Kenneth M. Lanzetta, Arthur M. Wolfe, & David A. Turnshek.* 344, 277, 136-D13 (1989)

Damped Lyman-Alpha Absorption by Disk Galaxies with Large Redshifts. III. Intermediate-Resolution Spectroscopy. *David A. Turnshek, Arthur M. Wolfe, Kenneth M. Lanzetta, Frank H. Briggs, Ross D. Cohen, Craig B. Foltz, Harding E. Smith, & Belinda J. Wilkes.* 344, 567, 141-E7 (1989)

An Optical Counterpart of the Giant H I Cloud H I 1225+0146. *Richard G. McMahon, Michael J. Irwin, Riccardo Giovanelli, Martha P. Haynes, Arthur M. Wolfe, & C. Hazard.* 359, 302, 139-G1 (1990)

WOLFENDALE, A. W. Corrections to Virial Estimates of Molecular Cloud Masses. *I. MacLaren, K. M. Richardson, & A. W. Wolfendale.* 333, 821, 149-C7 (1988)

Implications of an Extragalactic Origin for the Highest Energy Cosmic Rays. *J. Wdowczyk & A. W. Wolfendale.* 349, 35, 14-D6 (1990)

The Size–Line Width Relation and the Mass of Molecular Hydrogen. *M. Issa, I. MacLaren, & A. W. Wolfendale.* 352, 132, 51-F1 (1990)

WOLFF, MICHAEL T. On the Stability of Degenerate Dwarf Radiative Shocks: New One- and Two-Temperature Calculations. *Michael T. Wolff, John H. Gardner, & Kent S. Wood.* 346, 833, 177-E12 (1989)

On the Stability Properties of White Dwarf Radiative Shocks: Settling Solutions. *James N. Imamura & Michael T. Wolff.* 355, 216, 89-E9 (1990)

WOLFF, SIDNEY C. Optical Manifestations of Mass Outflows from Young Stars: An Atlas of CCD Images of Herbig-Haro Objects. *Karen M. Strom, Stephen E. Strom, Sidney C. Wolff, Jeff Morgan, & Michael Wenz.* 62, 39, 31-D1 (1986)

Activity in F Stars. *Sidney C. Wolff, Ann Merchant Boesgaard, & Theodore Simon.* 310, 360, 136-A1 (1986)

WOLFIRE, M. G. Low-Mass, Pre–Main-Sequence Stars: The Infrared Emission from Circumstellar Dust. *M. G. Wolfire & E. Churchwell.* 315, 315, 43-C14 (1987)

The Infrared Emission from Dust Surrounding Newly Formed O Stars. *E. Churchwell, M. G. Wolfire, & Douglas O. S. Wood.* 354, 247, 77-B11 (1990)

WOLFIRE, MARK G. The Temperature Structure in Accretion Flows onto Massive Protostars. *Mark G. Wolfire & Joseph P. Cassinelli.* 310, 207, 134-C13 (1986)

Conditions for the Formation of Massive Stars. *Mark G. Wolfire & Joseph P. Cassinelli.* 319, 850, 104-C7 (1987)

The Correlation of C II 158 Micron and CO ($J = 1$–0) Line Emission. *Mark G. Wolfire, David Hollenbach, & A. G. G. M. Tielens.* 344, 770, 143-G8 (1989)

Physical Conditions in Photodissociation Regions: Application to Galactic Nuclei. *Mark G. Wolfire, A. G. G. M. Tielens, & David Hollenbach.* 358, 116, 123-D6 (1990)

WOLFSON, C. J. Properties of an Impulsive Compact Solar Flare Determined from *Solar Maximum Mission* X-Ray Measurements. *G. A. Linford & C. J. Wolfson.* 331, 1036, 120-D1 (1988)

WOLFSON, R. Spontaneous Formation of Electric Current Sheets and the Origin of Solar Flares. *B. C. Low & R. Wolfson.* 324, 574, 7-E4 (1988)

WOLFSON, RICHARD. Current Sheet Formation in a Sheared Force-free Magnetic Field. *Richard Wolfson.* 344, 471, 138-G1 (1989)

WOLFSTELLER, H. Charged Particle Dynamics near the Force-free Surface of a Rotating Magnetized Sphere. *K. O. Thielheim & H. Wolfsteller.* 71, 583, 44-A11 (1989)

WOLSTENCROFT, R. D. The Enhancement of Infrared Emission in Interacting Galaxies. *C. M. Telesco, R. D. Wolstencroft, & C. Done.* 329, 174, 76-G11 (1988)

WOLSZCZAN, A. Multiple Imaging of Pulsars by Refraction in the Interstellar Medium. *J. M. Cordes & A. Wolszczan.* 307, L27, 100-B13 (1986)

A Cross-Correlation Analysis of Subpulse Drift in PSR 0809+74, PSR 1237+25, and PSR 1919+21. *M. Prószyński & A. Wolszczan.* 307, 540, 102-G6 (1986)

The Drifting Subpulse Phenomenon Observed in Three Pulsars with Triple Profiles. *T. H. Hankins & A. Wolszczan.* 318, 410, 83-D8 (1987)

Interstellar Interferometry of the Pulsar PSR 1237+25. *A. Wolszczan & J. M. Cordes.* 320, L35, 114-C11 (1987)

VLBI Observations of a Pulsar's Scattering Disk. *C. R. Gwinn, J. M. Cordes, N. Bartel, A. Wolszczan, & R. L. Mutel.* 334, L13, 161-B10 (1988)

Interpulse Emission from Pulsars at 25 MHz. *J. A. Phillips & A. Wolszczan.* 344, L69, 148-C9 (1989)

Timing and Scintillations of the Millisecond Pulsar 1937+214. *J. M. Cordes, A. Wolszczan, R. J. Dewey, M. Blaskiewicz, & D. R. Stinebring.* 349, 245, 17-A1 (1990)

Timing Properties of PSR 1951+32 in the CTB 80 Supernova Remnant. *R. S. Foster, D. C. Backer, & A. Wolszczan.* 356, 243, 102-B3 (1990)

Deep Radio Synthesis Images of Globular Clusters. *S. R. Kulkarni, W. M. Goss, A. Wolszczan, & J. Middleditch.* 363, L5, 187-A10 (1990)

WOLSZCZAN, ALEXANDER. Mode Changing and Quasi-periodic Modulation in Pulsar 1737+13: A Bright, Five-componented Pulsar. *Joanna M. Rankin, Alexander Wolszczan, & Daniel R. Stinebring.* 324, 1048, 15-A11 (1988)

WOLTER, A. X-Ray Variability of the BL Lacertae Object PKS 2155–304 in the 0.1–6 keV Range. *M. Morini, L. Chiappetti, D. Maccagni, L. Maraschi, D. Molteni, E. G. Tanzi, A. Treves, & A. Wolter.* 306, L71, 93-G5 (1986)

A Red Envelope around a Dominant Elliptical Galaxy in an X-Ray Selected Poor Cluster. *D. Maccagni, B. Garilli, I. M. Gioia, T. Maccacaro, G. Vettolani, & A. Wolter.* 334, L1, 161-A6 (1988)

No Evidence for Radio-quiet BL Lacertae Objects. *John T. Stocke, Simon L. Morris, Isabella Gioia, Tommaso Maccacaro, R. E. Schild, & A. Wolter.* 348, 141, 2-F11 (1990)

The *Einstein Observatory* Extended Medium-Sensitivity Survey. I. X-Ray Data and Analysis. *I. M. Gioia, T. Maccacaro, R. E. Schild, A. Wolter, J. T. Stocke, S. L. Morris, & J. P. Henry.* 72, 567, 10-C11 (1990)

The Extended Medium-Sensitivity Survey Distant Cluster Sample: X-Ray Cosmological Evolution. *I. M. Gioia, J. P. Henry, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 356, L35, 110-A10 (1990)

WOLTER, ANNA. The X-Ray Spectra of the Extragalactic Sources in the *Einstein* Extended Medium-Sensitivity Survey. *Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, Giovanni Zamorani, & John T. Stocke.* 326, 680, 41-B3 (1988)

A Cooling Flow in a High-Redshift, X-Ray–selected Cluster of Galaxies. *Roberto Nesci, Isabella M. Gioia, Tommaso Maccacaro, Simon L. Morris, Giuseppe C. Perola, Rudolph E. Schild, & Anna Wolter.* 344, 104, 134-C11 (1989)

MS 1603.6+2600, an Unusual X-Ray Selected Binary System at High Galactic Latitude. *Simon L. Morris, James Liebert, John T. Stocke, Isabella M. Gioia, Rudy E. Schild, & Anna Wolter.* 365, 686, 216-G1 (1990)

WOLTER, W. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

WOO, JONATHAN W. Discovery of a Cyclotron Absorption Line in the Spectrum of the Binary X-Ray Pulsar 4U 1538–52 Observed by *Ginga*. *George W. Clark, Jonathan W. Woo, Fumiaki Nagase, Kazuo Makishima, & Taro Sakao.* 353, 274, 65-E8 (1990)

WOOD, D. The Excitation, Abundance, and Distribution of HNCO in Sagittarius B2. *E. Churchwell, D. Wood, P. C. Myers, & Roy V. Myers.* 305, 405, 71-E10 (1986)

WOOD, D. O. S. Solar System–sized Condensations in the Orion Nebula. *E. Churchwell, M. Felli, D. O. S. Wood, & M. Massi.* 321, 516, 127-F11 (1987)

WOOD, DOUGLAS O. S. Flux Densities of Ultracompact H II Regions at 3 Millimeters. *Douglas O. S. Wood, E. Churchwell, & C. J. Salter.* 325, 694, 28-B10 (1988)
Flux Densities of Ultracompact H II Regions at 7 Millimeters. *Douglas O. S. Wood, T. Handa, Y. Fukui, E. Churchwell, Y. Sofue, & T. Iwata.* 326, 884, 43-C2 (1988)
The Morphologies and Physical Properties of Ultracompact H II Regions. *Douglas O. S. Wood & Ed Churchwell.* 69, 831, 14-A1 (1989)
Massive Stars Embedded in Molecular Clouds: Their Population and Distribution in the Galaxy. *Douglas O. S. Wood & Ed Churchwell.* 340, 265, 70-C10 (1989)
A Single Rotating Disk of H I in Arp 299 (NGC 3690/IC 694). *S. A. Stanford & Douglas O. S. Wood.* 346, 712, 176-C1 (1989)
Cometary Compact H II Regions Are Stellar-Wind Bow Shocks. *Dave Van Buren, Mordecai-Mark Mac Low, Douglas O. S. Wood, & Ed Churchwell.* 353, 570, 71-A8 (1990)
The Infrared Emission from Dust Surrounding Newly Formed O Stars. *E. Churchwell, M. G. Wolfire, & Douglas O. S. Wood.* 354, 247, 77-B11 (1990)
WOOD, JANET H. Eclipse Studies of the Dwarf Nova OY Carinae in Quiescence. *Janet H. Wood, Keith Horne, Graham Berriman, & Richard A. Wade.* 341, 974, 97-C1 (1989)
WOOD, K. The Discovery of Eight Bright Active Galactic Nuclei Observed with the *HEAO 1* Scanning Modulation Collimator. *R. A. Remillard, H. V. Bradt, D. A. H. Buckley, W. Roberts, D. A. Schwartz, I. R. Tuohy, & K. Wood.* 301, 742, 23-F5 (1986)
WOOD, K. S. An Intermediate-Sensitivity Survey at High Galactic Latitude with *HEAO* A-1. *Chris R. Shrader, K. S. Wood, & Terry Matilsky.* 61, 353, 22-B6 (1986)
On the Short Time Scale Variability of the Seyfert Galaxy NGC 6814. *J. H. Beall, K. S. Wood, & D. J. Yentis.* 308, 563, 115-B1 (1986)
Discovery of 5 Hz Quasi-periodic Oscillations in Cygnus X-2. *J. P. Norris & K. S. Wood.* 312, 732, 11-A1 (1987)
The Effect of Gravitational Lensing on Pulsed Emission from Neutron Stars Exhibiting Quasi-Periodic Oscillation. *K. S. Wood, C. Ftaclas, & M. Kearney.* 324, L63, 18-C10 (1988)
Further Observations of the Eclipsing X-Ray Burst Source MXB 1659−29. *L. R. Cominsky & K. S. Wood.* 337, 485, 23-E4 (1989)
Search for Millisecond X-Ray Pulsations from the Galactic Bulge X-Ray Source GX 9+1. *P. Hertz, J. P. Norris, K. S. Wood, B. A. Vaughan, & P. F. Michelson.* 354, 267, 77-D7 (1990)
Independence of Short Time Scale Fluctuations of Quasi-periodic Oscillations and Low-Frequency Noise in GX 5−1. *J. P. Norris, P. Hertz, K. S. Wood, B. A. Vaughan, P. F. Michelson, K. Mitsuda, & T. Dotani.* 361, 514, 164-E1 (1990)
Radio and X Ray States in the X-Ray Binary Scorpius X-1. *R. M. Hjellming, R. T. Stewart, G. L. White, R. Strom, W. H. G. Lewin, P. Hertz, K. S. Wood, J. P. Norris, K. Mitsuda, W. Penninx, & J. van Paradijs.* 365, 681, 216-F7 (1990)
WOOD, KENT S. The *HEAO* A-1 All-Sky Survey of Fast X-Ray Transients. *Carol W. Ambruster & Kent S. Wood.* 311, 258, 148-G9 (1986)
Discovery of a 4.2 Hour X-Ray Period in GX 9+9. *Paul Hertz & Kent S. Wood.* 331, 764, 117-C5 (1988)
On the Stability of Degenerate Dwarf Radiative Shocks: New One- and Two-Temperature Calculations. *Michael T. Wolff, John H. Gardner, & Kent S. Wood.* 346, 833, 177-E12 (1989)
WOOD, M. A. The Exotic Helium Variable PG 1346+082. *M. A. Wood, D. E. Winget, R. E. Nather, Frederic V. Hessman, James Liebert, Donald W. Kurtz, F. Wesemael, & G. Wegner.* 313, 757, 25-B1 (1987)
Whole Earth Telescope Observations of the White Dwarf G29-38: Phase Variations of the 615 Second Period. *D. E. Winget, R. E. Nather, J. C. Clemens, J. Provencal, S. J. Kleinman, P. A. Bradley, M. A. Wood, C. F. Claver, E. L. Robinson, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, C. J. Hansen, & James Liebert.* 357, 630, 120-D3 (1990)
The White Dwarf Luminosity Function: A Possible Probe of the Galactic Halo. *Christopher M. Tamanaha, Joseph Silk, M. A. Wood, & D. E. Winget.* 358, 164, 124-A12 (1990)
WOOD, MATT A. Detection of Superhumps and Quasi-periodic Oscillations in the Light Curve of the Dwarf Nova SW Ursae Majoris. *Edward L. Robinson, Allen W. Shafter, J. Allen Hill, Matt A. Wood, & Janet A. Mattei.* 313, 772, 25-C2 (1987)
WOOD, P. A. D. X-Rays from the Radio Halo of M87. *E. D. Feigelson, P. A. D. Wood, E. J. Schreier, D. E. Harris, & M. J. Reid.* 312, 101, 2-B5 (1987)
WOOD, P. R. Detection of an OH/IR Star in the Large Magellanic Cloud. *P. R. Wood, M. S. Bessell, & J. B. Whiteoak.* 306, L81, 94-A1 (1986)
Hydrostatic Evolutionary Sequences for the Nuclei of Planetary Nebulae. *P. R. Wood & D. J. Faulkner.* 307, 659, 104-B9 (1986)
The Velocity Dispersion of Old Stars in the Large Magellanic Cloud. *M. S. Bessell, K. C. Freeman, & P. R. Wood.* 310, 710, 141-F9 (1986)
Angular Diameters of Magellanic Cloud Planetary Nebulae. I. Speckle Interferometry. *P. R. Wood, M. S. Bessell, & M. A. Dopita.* 311, 632, 154-F10 (1986)
Angular Diameters and Fluxes of Magellanic Cloud Planetary Nebulae. II. High-Speed Direct Imaging. *P. R. Wood, S. J. Meatheringham, M. A. Dopita, & D. H. Morgan.* 320, 178, 110-A11 (1987)
The Ionization Effects of Shock Breakout in SN 1987A. *M. A. Dopita, S. J. Meatheringham, P. Nulsen, & P. R. Wood.* 322, L85, 152-C5 (1987)
A Study of Some Southern Planetary Nebulae. *Stephen J. Meatheringham, P. R. Wood, & D. J. Faulkner.* 334, 862, 166-A1 (1988)
Speckle Interferometry of SN 1987A up to One Year after Explosion. *P. R. Wood, P. E. J. Nulsen, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 339, 1073, 65-A1 (1989)
Speckle Interferometry of SN 1987A: Final Measurements. *P. E. J. Nulsen, P. R. Wood, P. R. Gillingham, M. S. Bessell, M. A. Dopita, & C. McCowage.* 358, 266, 125-D6 (1990)
WOOD, PETER R. New Evolutionary Relationships for Magellanic Cloud Planetary Nebulae. *Michael A. Dopita, Stephen J. Meatheringham, Peter R. Wood, B. Louise Webster, David H. Morgan, & Holland C. Ford.* 315, L107, 49-D2 (1987)
Parkes H I Observations of Southern Globular Clusters: Implications for Stellar Mass Loss. *Graeme H. Smith, Peter R. Wood, D. J. Faulkner, & Alan E. Wright.* 353, 168, 64-C1 (1990)
WOODARD, M. F. Frequencies of Solar Oscillations. *K. G. Libbrecht, M. F. Woodard, & J. M. Kaufman.* 74, 1129, 46-F11 (1990)
WOODARD, MARTIN F. On the Constancy of Intermediate-Degree *p*-Mode Frequencies during the Declining Phase of Solar Cycle 21. *Edward J. Rhodes, Jr., Martin F. Woodard, Alessandro Cacciani, Steven Tomczyk, Sylvain G. Korzennik, & Roger K. Ulrich.* 326, 479, 37-E4 (1988)
Distortion of High-Degree Solar *p*-Mode Eigenfunctions by Latitudinal Differential Rotation. *Martin F. Woodard.* 347, 1176, 198-C3 (1989)
Depth and Latitude Dependence of the Solar Internal Angular Velocity. *Edward J. Rhodes, Jr., Alessandro Cacciani, Sylvain Korzennik, Steven Tomczyk, Roger K. Ulrich, & Martin F. Woodard.* 351, 687, 48-F1 (1990)
WOODEN, D. H. Spectral Line Profiles of Nickel and Argon in Supernova 1987A: Expansion Velocity and Electron Scattering Effects. *F. C. Witteborn, J. D. Bregman, D. H. Wooden, P. A. Pinto, D. M. Rank, S. E. Woosley, & M. Cohen.* 338, L9, 40-C1 (1989)
New Emission Features in the 11–13 Micron Region and Their Relationship to Polycyclic Aromatic Hydrocarbons. *F. C. Witteborn, S. A. Sandford, J. D. Bregman, L. J. Allamandola, M. Cohen, D. H. Wooden, & A. L. Graps.* 341, 270, 87-C5 (1989)
The Discovery of a New Infrared Emission Feature at 1905 Wavenumbers (5.25 Microns) in the Spectrum of BD +30°3639 and Its Relation to the Polycyclic Aromatic Hydrocarbon Model. *L. J. Allamandola, J. D. Bregman, S. A. Sandford, A. G. G. M. Tielens, F. C. Witteborn, D. H. Wooden, & D. Rank.* 345, L59, 157-F1 (1989)
The Anomalous 3.43 and 3.53 Micron Emission Features toward HD 97048 and Elias 1: C-C Vibrational Modes of Polycyclic Aromatic Hydrocarbons? *W. A. Schutte, A. G. G. M. Tielens, L. J. Allamandola, M. Cohen, & D. H. Wooden.* 360, 577, 153-D5 (1990)

WOODEN, DIANE. The Infrared Emission Bands. I. Correlation Studies and the Dependence on C/O Ratio. *Martin Cohen, Lou Allamandola, A. G. G. M. Tielens, Jesse Bregman, J. P. Simpson, Fred C. Witteborn, Diane Wooden, & Dave Rank.* 302, 737, 38-F10 (1986)

3 Micron Spectrophotometry of Comet Halley: Evidence for Water Ice. *Jesse D. Bregman, A. G. G. M. Tielens, Fred C. Witteborn, David M. Rank, & Diane Wooden.* 334, 1044, 168-A11 (1988)

WOODEN, DIANE H. Observations of Infrared Emission from a Fast-moving Knot in Cassiopeia A. *Harriet L. Dinerstein, Daniel F. Lester, David M. Rank, Michael W. Werner, & Diane H. Wooden.* 312, 314, 4-C11 (1987)

WOODEN, DIANNE. The Infrared Emission Bands. III. Southern *IRAS* Sources. *Martin Cohen, A. G. G. M. Tielens, Jesse Bregman, Fred C. Witteborn, David M. Rank, L. J. Allamandola, Dianne Wooden, & M. de Muizon.* 341, 246, 87-A7 (1989)

WOODGATE, BRUCE E. Differential Imaging of [Fe x] in IC 443. *Larry W. Brown, Bruce E. Woodgate, & Robert Petre.* 334, 852, 165-G1 (1988)

WOODHAMS, M. D. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

WOODMAN, J. H. Spectroscopic Observations of Nova Cygni 1975: The Coronal Line Region Revisited. *G. J. Ferland, D. L. Lambert, & J. H. Woodman.* 60, 375, 5-C6 (1986)

Spectroscopic Observations of Nova Cygni 1975: The Coronal Line Region Revisited: Erratum. *G. J. Ferland, D. L. Lambert, & J. H. Woodman.* 62, 939, 44-C8 (1986) (Orig. paper in 60, 375, 5-C6 (1986))

WOODS, D. T. On the H_2 Line Emission from NGC 6240 and Other Starburst Galaxies. *B. T. Draine & D. T. Woods.* 363, 464, 190-A1 (1990)

WOODS, D. TOD. Lower Solar Chromosphere-Corona Transition Region. I. Theoretical Models with Small Temperature Gradients. *D. Tod Woods, Thomas E. Holzer, & Keith B. MacGregor.* 355, 295, 90-E4 (1990)

Lower Solar Chromosphere-Corona Transition Region. III. Implications of the Observed Quiet-Sun Emission Measure Including Wave Pressure Effects. *D. Tod Woods, Thomas E. Holzer, & Keith B. MacGregor.* 355, 309, 90-F6 (1990)

Lower Solar Chromosphere-Corona Transition Region. II. Wave Pressure Effects for a Specific Form of the Heating Function. *D. Tod Woods, Thomas E. Holzer, & Keith B. MacGregor.* 73, 489, 25-B5 (1990)

WOODS, DAVID. The Luminosity-Velocity Diagram: A New Distance Estimator for Spiral Galaxies? *Barry F. Madore & David Woods.* 323, L25, 158-B13 (1987)

Luminosity-Velocity Diagrams for Virgo Cluster Spirals. I. Inner Rotation Curves. *David Woods, Barry F. Madore, & Gregory G. Fahlman.* 353, 90, 63-C1 (1990)

WOODS, R. CLAUDE. Interstellar Absorption Lines toward NGC 2264 and AFGL 2591: Abundances of H_2, H^{+3}, and CO. *John H. Black, Ewine F. van Dishoeck, S. P. Willner, & R. Claude Woods.* 358, 459, 129-C8 (1990)

WOODS, T. N. Observations of a Greenstein Effect in the O I λ1302 Emission of Comet Halley. *K. F. Dymond, P. D. Feldman, & T. N. Woods.* 338, 1115, 47-D10 (1989)

WOODS, TARA C. A Catalog of Observations for Stellar Masers. *Priscilla J. Benson, Irene R. Little-Marenin, Tara C. Woods, Joanne M. Attridge, Kristin A. Blais, Dana B. Rudolph, Myra E. Rubiera, & Heidi L. Keefe.* 74, 911, 44-B7 (1990)

WOODSWORTH, A. W. The Binary Nature of the Barium and CH Stars. III. Orbital Parameters. *Robert D. McClure & A. W. Woodsworth.* 352, 709, 59-G1 (1990)

WOODWARD, C. E. Near-Infrared Images of the Bipolar Nebula OH 0739−14. *C. E. Woodward, W. J. Forrest, J. L. Pipher, A. Moneti, & M. A. Shure.* 337, 754, 28-D2 (1989)

Spectroscopic Images of NGC 7027 in the Near-Infrared Dust Emission Features. *C. E. Woodward, Judith L. Pipher, Mark Shure, W. J. Forrest, & K. Sellgren.* 342, 860, 113-A7 (1989)

Near-Infrared Images of NGC 1068: Bar-driven Star Formation and the Circumnuclear Composition. *Harley A. Thronson, Jr., Mark Hereld, Steven Majewski, Matthew Greenhouse, Paul Johnson, Earl Spillar, C. E. Woodward, D. A. Harper, & Bernard J. Rauscher.* 343, 158, 120-B3 (1989)

The Infrared Coronal Lines of Recent Novae. *Matthew A. Greenhouse, G. L. Grasdalen, C. E. Woodward, J. Benson, R. D. Gehrz, E. Rosenthal, & M. F. Skrutskie.* 352, 307, 53-F1 (1990)

WOODWARD, CHARLES E. High Spatial Resolution Infrared Imaging of L1551–IRS 5: Direct Observations of Its Circumstellar Envelope. *Andrea Moneti, William J. Forrest, Judith L. Pipher, & Charles E. Woodward.* 327, 870, 58-B10 (1988)

Infrared Imaging of the Compact H II Region W3A. *Thomas L. Hayward, Gary L. Grasdalen, Charles E. Woodward, John A. Hackwell, Robert D. Gehrz, & Judith L. Pipher.* 345, 894, 161-F1 (1989)

AFGL 2004: An Infrared Quintuplet near the Galactic Center. *Tetsuya Nagata, Charles E. Woodward, Mark Shure, Judith L. Pipher, & Haruyuki Okuda.* 351, 83, 39-B1 (1990)

Infrared Imaging of the M8 Hourglass. *Charles E. Woodward, Judith L. Pipher, H. L. Helfer, & W. J. Forrest.* 365, 252, 209-C7 (1990)

WOODWARD, D. R. The Radio Spectrum of the C_4D Radical. *D. R. Woodward, J. C. Pearson, C. A. Gottlieb, & P. Thaddeus.* 333, L29, 144-C8 (1988)

WOODWARD, JAMES F. Pulsar Magnetogyro Ratios and Pulsar Evolution. IV. Peaks in the Pulse Period Number Density Distribution and Short-Period Evolution. *James F. Woodward.* 316, 743, 60-C1 (1987)

WOODY, D. VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)

Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)

WOODY, D. P. Aperture-Synthesis Observations of Carbon Monoxide in the Egg Nebula. *G. M. Heiligman, G. L. Berge, M. J. Claussen, R. B. Leighton, K. Y. Lo, C. R. Masson, A. T. Moffet, T. G. Phillips, A. I. Sargent, S. L. Scott, N. Z. Scoville, P. G. Wannier, & D. P. Woody.* 308, 306, 111-D3 (1986)

Molecular Gas in the Starburst Nucleus of M82. *K. Y. Lo, K. W. Cheung, C. R. Masson, T. G. Phillips, S. L. Scott, & D. P. Woody.* 312, 574, 9-B7 (1987)

Molecular Spiral Structure in M51. *K. Y. Lo, R. Ball, C. R. Masson, T. G. Phillips, S. Scott, & D. P. Woody.* 317, L63, 78-B11 (1987)

CO Maps of the OMC-1 Outflow. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 319, 446, 98-A11 (1987)

A Possible Protostar near HH 7–11. *E. N. Grossman, C. R. Masson, A. I. Sargent, N. Z. Scoville, S. Scott, & D. P. Woody.* 320, 356, 112-A1 (1987)

CO Maps of the OMC-1 Outflow: Erratum. *C. R. Masson, K. Y. Lo, T. G. Phillips, A. I. Sargent, N. Z. Scoville, & D. P. Woody.* 325, 519, 24-G7 (1988) (Orig. paper in 319, 446, 98-A11 (1987))

Interferometric Observations of 1.4 Millimeter Continuum Sources. *D. P. Woody, S. L. Scott, N. Z. Scoville, L. G. Mundy, A. I. Sargent, S. Padin, C. G. Tinney, & C. D. Wilson.* 337, L41, 25-D5 (1989)

Interferometric $C^{18}O$ Observations of DR 21(OH) and L1551 IRS 5 at $\gamma = 1.4$ Millimeters. *S. Padin, A. I. Sargent, L. G. Mundy, N. Z. Scoville, D. P. Woody, R. B. Leighton, C. R. Masson, S. L. Scott, T. V. Seling, K. R. Stapelfeldt, & S. Terebey.* 337, L45, 25-D9 (1989)

223 GHz VLBI Observations of 3C 273. *S. Padin, D. P. Woody, M. W. Hodges, A. E. E. Rogers, D. T. Emerson, P. R. Jewell, J. Lamb, A. Perfetto, & M. C. H. Wright.* 360, L11, 149-C2 (1990)

WOODY, DAVID P. Protostellar Condensations within the Orion Ridge. *Lee G. Mundy, Nicholas Z. Scoville, Lars B. Bååth, Colin R. Masson, & David P. Woody.* 304, L51, 66-C2 (1986)

WOOLF, N. J. 15 Meter Multiple Mirror Telescope Design Study. *J. R. P. Angel & N. J. Woolf.* 301, 478, 19-A13 (1986)

WOOSLEY, S. E. Models for Type I Supernova. I. Detonations in White Dwarfs. *S. E. Woosley, Ronald E. Taam, & Thomas A. Weaver.* 301, 601, 22-C3 (1986)

Gravitational Collapse and the Cosmic Antineutrino Background. *S. E. Woosley, James R. Wilson, & Ron Mayle.* 302, 19, 28-B11 (1986)

Nucleosynthesis in Neutron-rich Supernova Ejecta: Erratum. *D. Hartmann, S. E. Woosley, & M. F. El Eid.* 307, 414, 99-E10 (1986) (Orig. paper in 297, 837, 110-G1 (1985))

The Evolution of Radiation-dominated Stars. I. Nonrotating Supermassive Stars. *G. M. Fuller, S. E. Woosley, & T. A. Weaver.* 307, 675, 104-C11 (1986)

New Constraints on the Progenitor of the Binary Pulsar: PSR 1913+16. *Adam Burrows & S. E. Woosley.* 308, 680, 116-D6 (1986)

Supernova 1987A in the Large Magellanic Cloud: The Explosion of a $\sim 20\ M_\odot$ Star Which Has Experienced Mass Loss? *S. E. Woosley, P. A. Pinto, P. G. Martin, & Thomas A. Weaver.* 318, 664, 88-B11 (1987)

Supernova 1987A: Six Weeks Later. *S. E. Woosley, Philip A. Pinto, & L. Ensman.* 324, 466, 6-C9 (1988)

X-Ray and Gamma-Ray Emission from Supernova 1987A. *Philip A. Pinto & S. E. Woosley.* 329, 820, 86-A7 (1988)

SN 1987A: After the Peak. *S. E. Woosley.* 330, 218, 92-E1 (1988)

SN 1987A: Out On the Tail. *Philip A. Pinto, S. E. Woosley, & Lisa M. Ensman.* 331, L101, 121-F3 (1988)

Thermal Cyclotron Reprocessing of Gamma-Ray Bursts: Theory and Model Spectra. *Dieter Hartmann, S. E. Woosley, & Jonathan Arons.* 332, 777, 133-A8 (1988)

Explosions in Wolf-Rayet Stars and Type Ib Supernovae. I. Light Curves. *Lisa M. Ensman & S. E. Woosley.* 333, 754, 148-E5 (1988)

Spectral Line Profiles of Nickel and Argon in Supernova 1987A: Expansion Velocity and Electron Scattering Effects. *F. C. Witteborn, J. D. Bregman, D. H. Wooden, P. A. Pinto, D. M. Rank, S. E. Woosley, & M. Cohen.* 338, L9, 40-C1 (1989)

Hard Emission at Late Times from SN 1987A. *S. E. Woosley, Philip A. Pinto, & Dieter Hartmann.* 346, 395, 171-A6 (1989)

Galactic Neutron Stars and Gamma-Ray Bursts. *Dieter Hartmann, Richard I. Epstein, & S. E. Woosley.* 348, 625, 10-D6 (1990)

^{146}Sm by the Gamma-Process. *S. E. Woosley & W. M. Howard.* 354, L21, 80-C6 (1990)

The ν-Process. *S. E. Woosley, D. H. Hartmann, R. D. Hoffman, & W. C. Haxton.* 356, 272, 102-D8 (1990)

WOOTTEN, ALWYN. A Massive Prestellar Molecular Core and Adjacent Compression Front in the ρ Ophiuchi Cloud. *Robert B. Loren & Alwyn Wootten.* 306, 142, 82-G8 (1986)

Submillimeter Molecular Spectroscopy with the Texas Millimeter Wave Observatory Radio Telescope. *Robert B. Loren & Alwyn Wootten.* 310, 889, 143-E12 (1986)

L1689N: Misalignment between a Bipolar Outflow and a Magnetic Field. *Alwyn Wootten & R. B. Loren.* 317, 220, 66-D1 (1987)

The Duplicity of IRAS 16293–2422: A Protobinary Star? *Alwyn Wootten.* 337, 858, 29-E10 (1989)

Observations of the Formaldehyde Emission in Orion-KL: Abundances, Distribution, and Kinematics of the Dense Gas in the Orion Molecular Ridge. *Jeffrey G. Mangum, Alwyn Wootten, Robert B. Loren, & E. James Wadiak.* 348, 542, 9-D3 (1990)

Cold DCO^+ Cores and Protostars in the Warm ρ Ophiuchi Cloud. *Robert B. Loren, Alwyn Wootten, & Bruce A. Wilking.* 365, 269, 209-G1 (1990)

WOOTTEN, H. A. The Circumstellar Structure of IRAS 16293–2422: $C^{18}O$, NH_3, and CO Observations. *Lee G. Mundy, H. A. Wootten, & Bruce A. Wilking.* 352, 159, 52-A4 (1990)

WORDEN, SIMON P. Magnetic Field Measurements on the Sun and Implications for Stellar Magnetic Field Observations. *Wei-Hsin Sun, Mark S. Giampapa, & Simon P. Worden.* 312, 930, 13-B1 (1987)

WORLEY, A. *Ariel 6* Measurements of the Fluxes of Ultra-heavy Cosmic Rays. *P. H. Fowler, R. N. F. Walker, M. R. W. Masheder, R. T. Moses, A. Worley, & A. M. Gay.* 314, 739, 37-F7 (1987)

WORRALL, D. M. Observations of Three BL Lacertae Objects: Constraints on Inhomogeneous Relativistically Beamed Jet Models. *D. M. Worrall, J. M. Rodríguez-Espinosa, W. Z. Wiśniewski, H. R. Miller, F. C. Bruhweiler, M. F. Aller, & H. D. Aller.* 303, 589, 49-A2 (1986)

EXOSAT Observations of 3C 371. *R. Staubert, H. Brunner, & D. M. Worrall.* 310, 694, 141-E6 (1986)

X-Ray Studies of Quasars with the *Einstein Observatory*. IV. X-Ray Dependence on Radio Emission. *D. M. Worrall, P. Giommi, H. Tananbaum, & G. Zamorani.* 313, 596, 23-C9 (1987)

Luminosity Dependence in the Ratio of X-Ray to Infrared Emission of QSOs. *D. M. Worrall.* 318, 188, 81-A4 (1987)

X-Ray Spectra of Compact Extragalactic Radio Sources. *D. M. Worrall & B. J. Wilkes.* 360, 396, 151-B11 (1990)

WOSIEK, B. Energy Spectra of Cosmic Rays above 1 TeV per Nucleon. *T. H. Burnett, S. Dake, J. H. Derrickson, W. F. Fountain, M. Fuki, J. C. Gregory, T. Hayashi, R. Holynski, J. Iwai, W. V. Jones, A. Jurak, J. J. Lord, O. Miyamura, H. Oda, T. Ogata, T. A. Parnell, F. E. Roberts, S. Strausz, T. Tabuki, Y. Takahashi, T. Tominaga, J. W. Watts, J. P. Wefel, B. Wilczynska, H. Wilczynski, R. J. Wilkes, W. Wolter, & B. Wosiek (The JACEE Collaboration).* 349, L25, 19-C9 (1990)

WOUTERLOOT, JAN G. A. Molecular Abundances in the High-Latitude Molecular Clouds. *Loris Magnani, Leo Blitz, & Jan G. A. Wouterloot.* 326, 909, 43-E1 (1988)

WRIGHT, A. E. Absorption Spectrum of the $z = 3.78$ QSO 2000−330. I. The Lyman-Alpha Forest Region at 1.5 Å Resolution. *R. W. Hunstead, H. S. Murdoch, B. A. Peterson, J. C. Blades, D. L. Jauncey, A. E. Wright, M. Pettini, & A. Savage.* 305, 496, 72-E8 (1986)

Kinematics and Ionization of Extended Gas in Active Galaxies. II. A Circumnuclear Starburst in the Type 1 Seyfert NGC 7469. *A. S. Wilson, J. A. Baldwin, Sze-Dung Sun, & A. E. Wright.* 310, 121, 133-C14 (1986)

Large Peculiar Velocities in the Hydra-Centaurus Supercluster. *M. Aaronson, G. D. Bothun, M. E. Cornell, J. A. Dawe, R. J. Dickens, P. J. Hall, Han Ming Sheng, J. P. Huchra, J. R. Lucey, J. R. Mould, J. D. Murray, R. A. Schommer, & A. E. Wright.* 338, 654, 42-B1 (1989)

An Upper Limit on the H I Content of the Carina Dwarf Spheroidal Galaxy. *J. R. Mould, G. D. Bothun, P. J. Hall, L. Staveley-Smith, & A. E. Wright.* 362, L55, 181-C7 (1990)

WRIGHT, ALAN E. Redshifts of Southern Radio Sources. VII. *Graeme L. White, David L. Jauncey, Ann Savage, Alan E. Wright, Michael J. Batty, Bruce A. Peterson, & Sam Gulkis.* 327, 561, 54-G7 (1988)

Parkes H I Observations of Southern Globular Clusters: Implications for Stellar Mass Loss. *Graeme H. Smith, Peter R. Wood, D. J. Faulkner, & Alan E. Wright.* 353, 168, 64-C1 (1990)

WRIGHT, E. *COBE* Differential Microwave Radiometers: Instrument Design and Implementation. *G. Smoot, C. Bennett, R. Weber, J. Maruschak, R. Ratliff, M. Janssen, J. Chitwood, L. Hilliard, M. Lecha, R. Mills, R. Patschke, C. Richards, C. Backus, J. Mather, M. Hauser, R. Weiss, D. Wilkinson, S. Gulkis, N. Boggess, E. Cheng, T. Kelsall, P. Lubin, S. Meyer, H. Moseley, T. Murdock, R. Shafer, R. Silverberg, & E. Wright.* 360, 685, 154-F1 (1990)

WRIGHT, E. L. A Preliminary Measurement of the Cosmic Microwave Background Spectrum by the *Cosmic Background Explorer (COBE)* Satellite. *J. C. Mather, E. S. Cheng, R. E. Eplee, Jr., R. B. Isaacman, S. S. Meyer, R. A. Shafer, R. Weiss, E. L. Wright, C. L. Bennett, N. W. Boggess, E. Dwek, S. Gulkis, M. G. Hauser, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. F. Silverberg, G. F. Smoot, & D. T. Wilkinson.* 354, L37, 86-B1 (1990)

WRIGHT, EDWARD L. Effect of Intervening Galaxies on Quasar Counts and Colors. *Edward L. Wright.* 311, 156, 147-F9 (1986)

Source Counts in the Chronometric Cosmology. *Edward L. Wright.* 313, 551, 22-G1 (1987)

The Red/Infrared Evolution in Galaxies—Effects of the Stars on the Asymptotic Giant Branch. *Arati Chokshi & Edward L. Wright.* 319, 44, 93-E1 (1987)

Long-Wavelength Absorption by Fractal Dust Grains. *Edward L. Wright.* 320, 818, 118-F6 (1987)

Needling the Early Universe. *Isabel Hawkins & Edward L. Wright.* 324, 46, 1-D10 (1988)

Confusion-limited Galaxy Fields. I. Simulated Optical and Near-Infrared Images. *Arati Chokshi & Edward L. Wright.* 333, 491, 145-C1 (1988)

Effects of a Hot Intergalactic Medium. *Gregory B. Taylor & Edward L. Wright.* 339, 619, 59-E8 (1989)

Fractal Dust Grains around R Coronae Borealis Stars. *Edward L. Wright.* 346, L89, 181-E1 (1989)

Confusion-limited Galaxy Fields. II. Classical Analyses. *Arati Chokshi & Edward L. Wright.* 347, 16, 182-C6 (1989)

Are High-Redshift Quasars Hidden by Dusty Galaxies? *Edward L. Wright.* 353, 411, 69-B7 (1990)

A Precise Measurement of the Cosmic Microwave Background Radiation Temperature from CN Observations toward ζ Persei. *Mary Elizabeth Kaiser & Edward L. Wright.* 356, L1, 103-B7 (1990)

WRIGHT, GILLIAN S. Infrared Spectroscopy of the Supernova Remnant IC 443. *James R. Graham, Gillian S. Wright, & Andrew J. Longmore.* 313, 847, 26-A7 (1987)

Infrared Spectroscopy and Imaging of the Crab Nebula. *James R. Graham, Gillian S. Wright, & Andrew J. Longmore.* 352, 172, 52-B5 (1990)

WRIGHT, M. C. H. Sub–Arc Second 2 Centimeter Continuum and SiO Spectral Line Observations of R Aquarii. *J. M. Hollis, A. G. Michalitsianos, M. Kafatos, M. C. H. Wright, & W. J. Welch.* 309, L53, 125-G2 (1986)

Aperture Synthesis Maps of HDO Emission in Orion-KL. *R. L. Plambeck & M. C. H. Wright.* 317, L101, 78-E4 (1987)

Aperture Synthesis Observations of the Circumnuclear Ring in the Galactic Center. *R. Güsten, R. Genzel, M. C. H. Wright, D. T. Jaffe, J. Stutzki, & A. I. Harris.* 318, 124, 80-C8 (1987)

VLBI Structure of 3C 84 at 89 GHz. *D. C. Backer, M. C. H. Wright, R. L. Plambeck, J. E. Carlstrom, C. R. Masson, A. T. Moffet, A. C. S. Readhead, D. Woody, A. E. E. Rogers, J. M. Moran, C. R. Predmore, & R. L. Dickman.* 322, 74, 138-F11 (1987)

Evolution of the Sub-Milliarcsecond Nucleus of 3C 84 at 100 GHz. *M. C. H. Wright, D. C. Backer, J. E. Carlstrom, R. L. Plambeck, J. Marr, A. E. E. Rogers, C. R. Masson, A. T. Moffet, D. Woody, A. C. S. Readhead, C. R. Predmore, R. L. Dickman, & J. M. Moran.* 329, L61, 89-B4 (1988)

A 95 GHz Methanol Maser in Orion-KL. *R. L. Plambeck & M. C. H. Wright.* 330, L61, 96-G14 (1988)

A Fast-moving Knot of Radio Emission in the Active Galaxy NGC 1275. *J. M. Marr, D. C. Backer, M. C. H. Wright, A. C. S. Readhead, & R. Moore.* 337, 671, 27-D1 (1989)

Velocity Structure of the Orion–IRc2 SiO Maser: Evidence for an 80 AU Diameter Circumstellar Disk. *R. L. Plambeck, M. C. H. Wright, & J. E. Carlstrom.* 348, L65, 13-C7 (1990)

223 GHz VLBI Observations of 3C 273. *S. Padin, D. P. Woody, M. W. Hodges, A. E. E. Rogers, D. T. Emerson, P. R. Jewell, J. Lamb, A. Perfetto, & M. C. H. Wright.* 360, L11, 149-C2 (1990)

Comparisons of SiO Maser and Long-Period Variable Positions in the R Aquarii and Omicron Ceti Binary Systems. *J. M. Hollis, M. C. H. Wright, W. J. Welch, P. R. Jewell, H. E. Crull, Jr., M. Kafatos, & A. G. Michalitsianos.* 361, 663, 166-C12 (1990)

WRIGHT, MELVYN. High-Resolution CO Images of Seyfert Galaxies. *Margaret Meixner, Richard Puchalsky, Leo Blitz, Melvyn Wright, & Tim Heckman.* 354, 158, 76-A1 (1990)

WROBEL, J. M. 92 Centimeter VLBI Structure of the Elliptical Galaxy MCG 5-4-18. *J. M. Wrobel & R. S. Simon.* 309, 593, 127-F6 (1986)

Far-Infrared Excesses from E/S0 Galaxies with Compact Radio Cores. *J. M. Wrobel, G. Neugebauer, & G. K. Miley.* 310, L11, 138-A14 (1986)

92 Centimeter VLBI Structure of the Elliptical Galaxy MCG 5-4-18: Erratum. *J. M. Wrobel & R. S. Simon.* 316, 858, 61-D14 (1987) (Orig. paper in 309, 593, 127-F6 (1986))

Current Star Formation as the Origin of Kiloparsec-Scale Radio Sources in Nearby E/S0 Galaxies. *J. M. Wrobel & D. S. Heeschen.* 335, 677, 180-A4 (1988)

Interstellar Matter in Early-Type Galaxies. III. Radio Emission and Star Formation. *D. E. P. Walsh, G. R. Knapp, J. M. Wrobel, & D.-W. Kim.* 337, 209, 19-G9 (1989)

Detection of CO Emission from S0 Galaxies. *L. J. Sage & J. M. Wrobel.* 344, 204, 135-E3 (1989)

The Double-lobed Blazar 3C 371. *J. M. Wrobel & K. R. Lind.* 348, 135, 2-F4 (1990)

Counts of Serendipitous 6 Centimeter Sources in E/S0 Galaxy Fields. *J. M. Wrobel & S. W. Krause.* 363, 11, 182-C1 (1990)

WU, C. S. The Synchrotron-Maser Theory of Type II Solar Radio Emission Processes: The Physical Model and Generation Mechanism. *C. S. Wu, R. S. Steinolfson, & G. C. Zhou.* 309, 392, 124-B11 (1986)

WU, C.-C. *Voyager* and *IUE* Observations of 3C 273: Detection of Possible Lyman Continuum Absorption in a Nearby ($z = 0.158$) Quasar. *G. A. Reichert, R. S. Polidan, C.-C. Wu, & T. E. Carone.* 325, 671, 28-A1 (1988)

WU, CHI-CHAO. Recurrent Episodic Mass Loss in a B2e Star: 66 Ophiuchi, 1982–1985. *C. A. Grady, George Sonneborn, Chi-Chao Wu, & H. F. Henrichs.* 65, 673, 39-A2 (1987)

Mass Loss in a B2 IIIe Star: ω Orionis 1978–1984. *George Sonneborn, C. A. Grady, Chi-Chao Wu, Daniel P. Hayes, E. F. Guinan, Paul K. Barker, & H. F. Henrichs.* 325, 784, 29-B8 (1988)

High-Velocity Ultraviolet Iron, Silicon, Oxygen, and Sulfur Absorption Features Associated with the Remnant of SN 1006. *Robert A. Fesen, Chi-Chao Wu, Marvin Leventhal, & Andrew J. S. Hamilton.* 327, 164, 48-G1 (1988)

Ultraviolet Spectrophotometry and Optical and Infrared Photometry of the Old Nova GK Persei. *Chi-Chao Wu, Robert J. Panek, Albert V. Holm, John C. Raymond, Lee W. Hartmann, & Jean H. Swank.* 339, 443, 55-D10 (1989)

Spectral Synthesis in the Ultraviolet. III. The Spectral Morphology of Normal Stars in the Mid-Ultraviolet. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 364, 272, 197-D6 (1990)

WU, F. Static Current-Sheet Models of Quiescent Prominences. *F. Wu & B. C. Low.* 312, 431, 5-E3 (1987)

Stability of Current-Sheet Models of Quiescent Prominences and Equatorial Disks. *F. Wu.* 320, 418, 112-E8 (1987)

WU, F. M. The Hydrogen Density of the Local Interstellar Medium and an Upper Limit to the Galactic Glow Determined from *Pioneer 10* Ultraviolet Photometer Observations. *F. M. Wu, P. Gangopadhyay, H. S. Ogawa, & D. L. Judge.* 331, 1004, 120-A11 (1988)

WU, KINWAH. Cyclotron Spectra from Inhomogeneous Accretion Columns. *Kinwah Wu & G. Chanmugam.* 331, 861, 118-D1 (1988)

Cyclotron Spectra from Inhomogeneous Accretion Columns. II. Polarization. *Kinwah Wu & G. Chanmugam.* 344, 889, 145-C1 (1989)

Thermal Cyclotron Absorption Coefficients. *G. Chanmugam, P. E. Barrett, Kinwah Wu, & M. W. Courtney.* 71, 323, 39-C9 (1989)

Polarized Cyclotron Emission from Three-dimensional Accretion Shocks. *Kinwah Wu & G. Chanmugam.* 354, 625, 84-B1 (1990)

WU, MEI. Gamma-Ray Emission in MeV–GeV Region from Cygnus X-3. *Ti-pei Li & Mei Wu.* 346, 391, 171-A1 (1989)

WU, S. T. Induced Mass and Wave Motions in the Lower Solar Atmosphere. II. Effects of Converging and Diverging Photospheric Motions. *S. T. Wu, Y. Q. Hu, Y. Nakagawa, & E. Tandberg-Hanssen.* 306, 751, 92-F9 (1986)

The Observed Characteristics of Flare Energy Release. II. High-Speed Soft X-Ray Fronts. *Marcos E. Machado, Y. C. Xiao, S. T. Wu, Th. Prokakis, & D. Dialetis.* 326, 451, 37-C2 (1988)

The Effect of the Solenoidal Condition on the Numerical Magnetohydrodynamic Simulation of Coronal Dynamics. *S. T. Wu, M. Dryer, R. S. Steinolfson, & E. Tandberg-Hanssen.* 333, 386, 142-C8 (1988)

Magnetohydrodynamic Instabilities in Coronal Arcades. *Chang-Hyuk An, S. T. Suess, & S. T. Wu.* 337, 989, 31-B1 (1989)

On the Numerical Computation of Nonlinear Force-free Magnetic Fields. *S. T. Wu, M. T. Sun, H. M. Chang, M. J. Hagyard, & G. A. Gary.* 362, 698, 179-D6 (1990)

WU, X. D. The Far-Infrared Polarization of the Orion Nebula. *D. P. Gonatas, G. A. Engargiola, R. H. Hildebrand, S. R. Platt, X. D. Wu, J. A. Davidson, G. Novak, D. K. Aitken, & C. Smith.* 357, 132, 112-F4 (1990)

The Magnetic Field in the Dust Ring at the Center of the Galaxy. *R. H. Hildebrand, D. P. Gonatas, S. R. Platt, X. D. Wu, J. A. Davidson, M. W. Werner, G. Novak, & M. Morris.* 362, 114, 170-E3 (1990)

WU, XINJI. Radio Observation of the Supernova Remnant HB 9 at 232 MHz. *Zhiqiang Shen, Xinji Wu, Xizhen Zhang, Yijia Zheng, Zong-wei Li, & D. A. Leahy.* 356, 241, 102-B1 (1990)

WU, XUENING. Kinematics and Ionization of Extended Gas in Active Galaxies. V. The Seyfert Galaxy NGC 5548. *A. S. Wilson, Xuening Wu, T. M. Heckman, J. A. Baldwin, & B. Balick.* 339, 729, 60-G7 (1989)

WU, YUEFANG. A Reexamination of the Energetics of Molecular Clouds. *Yuefang Wu & Neal J. Evans II.* 340, 307, 70-G5 (1989)

A CS Survey of Low-Mass Cores and Comparison with NH_3 Observations. *Shudong Zhou, Yuefang Wu, Neal J. Evans II, Gary A. Fuller, & Philip C. Myers.* 346, 168, 168-B11 (1989)

WÜLSER, JEAN-PIERRE. High Time Resolution Observations of Hα Line Profiles during the Impulsive Phase of a Solar Flare. *Jean-Pierre Wülser & Hans Marti.* 341, 1088, 98-F1 (1989)

Hα Spectra of Dynamic Chromospheric Processes in Five Well-observed X-Ray Flares. *Richard C. Canfield, Alan L. Kiplinger, Matthew J. Penn, & Jean-Pierre Wülser.* 363, 318, 186-B1 (1990)

WUEST, C. An Upper Limit on the Flux of Extraterrestrial Neutrons. *R. Svoboda, R. M. Bionta, G. Blewitt, C. B. Bratton, D. Casper, P. Chrysicopoulou, A. Ciocio, R. Claus, B. Cortez, S. T. Dye, S. Errede, G. W. Foster, W. Gajewski, K. S. Ganezer, M. Goldhaber, T. J. Haines, T. W. Jones, D. Kielczewska, W. R. Kropp, J. G. Learned, J. M. LoSecco, J. Matthews, H. S. Park, F. Reines, J. Schultz, S. Seidel, E. Shumard, D. Sinclair, H. W. Sobel, J. L. Stone, L. Sulak, G. Thornton, J. C. van der Velde, & C. Wuest.* 315, 420, 45-C10 (1987)

WUNNER, G. The Origin of the 10 Megagauss Zeeman Features in the AM Herculis System EF Eridani. *R. Ostreicher, W. Seifert, G. Wunner, & H. Ruder.* 350, 324, 29-A7 (1990)

WYCKOFF, S. H0323+022: A New BL Lacertae Object with Extremely Rapid Variability. *E. D. Feigelson, H. Bradt, J. McClintock, R. Remillard, C. M. Urry, S. Tapia, B. Geldzahler, K. Johnston, W. Romanishin, P. A. Wehinger, S. Wyckoff, G. Madejski, D. A. Schwartz, J. Thorstensen, & B. E. Schaefer.* 302, 337, 32-A3 (1986)

Ground-based Constraints on the H_2O^+/CO^+ Abundance Ratio and Dust Impact Rate in Comet P/Giacobini-Zinner: Comparison with the *ICE* Spacecraft Results. *R. Mark Wagner, Barry L. Lutz, & S. Wyckoff.* 322, 544, 143-G9 (1987)

WYCKOFF, SUSAN. Abundances in Comet Halley at the Time of the Spacecraft Encounters. *Susan Wyckoff, Stephen Tegler, Peter A. Wehinger, Hyron Spinrad, & Michael J. S. Belton.* 325, 927, 30-F9 (1988)

The $^{12}C/^{13}C$ Abundance Ratio in Comet Halley. *Susan Wyckoff, Eric Lindholm, Peter A. Wehinger, Bruce A. Peterson, Jean-Marc Zucconi, & Michel C. Festou.* 339, 488, 56-A6 (1989)

NH_2 Fluorescence Efficiencies and the NH_3 Abundance in Comet Halley. *Stephen Tegler & Susan Wyckoff.* 343, 445, 123-E8 (1989)

WYNN-WILLIAMS, C. G. IRAS 04238+5336: A Young Reflection Nebula Surrounding a Double Star. *C. G. Wynn-Williams, J. N. Heasley, D. L. DePoy, G. J. Hill, & E. E. Becklin.* 304, 409, 58-C12 (1986)

The 2 Micron Spectrum of NGC 6240: Evidence for More than a Starburst. *D. L. DePoy, E. E. Becklin, & C. G. Wynn-Williams.* 307, 116, 96-C10 (1986)

Infrared and Radio Emission from II Zw 40 and Other Blue Dwarf Galaxies. *C. G. Wynn-Williams & E. E. Becklin.* 308, 620, 115-F10 (1986)

Infrared Studies of Elliptical Galaxies. I. An Optically Selected Sample. *C. D. Impey, C. G. Wynn-Williams, & E. E. Becklin.* 309, 572, 127-D12 (1986)

IRAS 23060+0505: A Highly Obscured $3.3 \times 10^{12}\ L_\odot$ Active Galaxy. *G. J. Hill, C. G. Wynn-Williams, & E. E. Becklin.* 316, L11, 56-A14 (1987)

The Properties and Environment of the Giant, Infrared-Luminous Galaxy IRAS 09104+4109. *S. G. Kleinmann, Donald Hamilton, W. C. Keel, C. G. Wynn-Williams, S. A. Eales, E. E. Becklin, & K. D. Kuntz.* 328, 161, 63-F11 (1988)

The Radio Properties of Galaxies with High Far-Infrared Luminosities. *S. A. Eales, C. G. Wynn-Williams, & C. A. Beichman.* 328, 530, 68-G9 (1988)

Infrared Sizes and Colors of Selected *IRAS* Galaxies. *G. J. Hill, E. E. Becklin, & C. G. Wynn-Williams.* 330, 737, 100-E6 (1988)

The Nature of the Extended Emission Features in IRAS 04210+0400. *G. J. Hill, C. G. Wynn-Williams, E. E. Becklin, & J. W. MacKenty.* 335, 93, 171-C3 (1988)

Cold Dust in Galaxies. *S. A. Eales, C. G. Wynn-Williams, & W. D. Duncan.* 339, 859, 62-D7 (1989)

Infrared Studies of Elliptical Galaxies. II. A Radio-selected Sample. *C. D. Impey, C. G. Wynn-Williams, & E. E. Becklin.* 356, 62, 99-G1 (1990)

The Subarcsecond Infrared Structures at the Centers of Infrared-luminous Galaxies. *S. A. Eales, E. E. Becklin, K.-W. Hodapp, D. A. Simons, & C. G. Wynn-Williams.* 365, 478, 214-A12 (1990)

WYSE, ROSEMARY F. G. Self-regulated Cooling Flows in Elliptical Galaxies and in Cluster Cores: Is Excusively Low Mass Star Formation Really Necessary? *Joseph Silk, S. Djorgovski, Rosemary F. G. Wyse, & Gustavo Bruzual A.* 307, 415, 101-C1 (1986)

A Schmidt Law for the Molecular Gas Profiles of Disk Galaxies. *Rosemary F. G. Wyse.* 311, L41, 160-B9 (1986)

Bimodal Star Formation: Constraints from the Solar Neighborhood. *Rosemary F. G. Wyse & J. Silk.* 313, L11, 21-A13 (1987)

Bimodal Star Formation: Constraints from Galaxy Colors at High Redshift. *Rosemary F. G. Wyse & Joseph Silk.* 319, L1, 100-A4 (1987)

On the Origin of Dwarf Galaxies. *Joseph Silk, Rosemary F. G. Wyse, & G. A. Shields.* 322, L59, 152-A9 (1987)

Star Formation Rates and Abundance Gradients in Disk Galaxies. *Rosemary F. G. Wyse & Joseph Silk.* 339, 700, 60-E1 (1989)

Local Gravity and Large-Scale Structure. *Roman Juszkiewicz, Nicola Vittorio, & Rosemary F. G. Wyse.* 349, 408, 20-C11 (1990)

XIANG, SHOU-PING. Apparent Velocities of Sources Moving in the Gravitational Field of a Kerr Black Hole. *Shou-ping Xiang, Tao Kiang, & Jia-lu Zhang.* 330, 168, 91-G7 (1988)

XIAO, Y. C. The Observed Characteristics of Flare Energy Release. II. High-Speed Soft X-Ray Fronts. *Marcos E. Machado, Y. C. Xiao, S. T. Wu, Th. Prokakis, & D. Dialetis.* 326, 451, 37-C2 (1988)

XIE, SHUDING. The Molecular Content of Interacting and Isolated Galaxies: The Effect of Environment on the Efficiency of Star Formation. *Judith S. Young, Jeffrey D. Kenney, Linda Tacconi, M. J. Claussen, Y.-L. Huang, Lowell Tacconi-Garman, Shuding Xie, & F. Peter Schloerb.* 311, L17, 152-B11 (1986)

Global Properties of Infrared Bright Galaxies. *Judith S. Young, Shuding Xie, Jeffrey D. P. Kenney, & Walter L. Rice.* 70, 699, 29-C1 (1989)

XIE, TAOLING. A Bipolar Outflow in the Globule Lynds 810. *Taoling Xie & Paul F. Goldsmith.* 359, 378, 140-F9 (1990)

XU, CONG. Heating of the Cool Dust in Spiral Galaxies and the Far-Infrared/Radio Correlation. *Cong Xu.* 365, L47, 219-B7 (1990)

XU, HUANG-JIAN. Four Year Modulation of Periodic Radio Outbursts from LSI +61°303. *P. C. Gregory, Huang-Jian Xu, C. J. Backhouse, & A. Reid.* 339, 1054, 64-F5 (1989)

XU, LAN-PING. On the Nature of the Molecular Cores in High-Latitude Cirrus Clouds. I. A Survey of H_2CO (2 Centimeter), C_3H_2, and HC_3N. *B. E. Turner, Lee J Rickard, & Lan-ping Xu.* 344, 292, 136-F2 (1989)

XU, YUEMING. X-Rays from Supernova 1987A. *Yueming Xu, Peter Sutherland, Richard McCray, & Randy R. Ross.* 327, 197, 49-B5 (1988)

XU, YU-LIN. An Improved Algorithm for the Determination of the System Parameters of a Visual Binary. *Heinrich K. Eichhorn & Yu-lin Xu.* 358, 575, 130-F3 (1990)

YAGINUMA, Y. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989

March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

YAHIL, A. The Dipole Anisotropies of the *IRAS* Galaxies and the Microwave Background Radiation. *A. Yahil, D. Walker, & M. Rowan-Robinson.* 301, L1, 20-A4 (1986)

Mass, Luminosity, and Line Width Relations of Galactic Molecular Clouds. *P. M. Solomon, A. R. Rivolo, J. Barrett, & A. Yahil.* 319, 730, 103-A8 (1987)

Analysis of the Neutrino Events from Supernova 1987A. *James M. Lattimer & A. Yahil.* 340, 426, 72-E1 (1989)

Galaxy Clustering and the Origin of Large-Scale Flows. *R. Juszkiewicz & A. Yahil.* 346, L49, 181-B1 (1989)

Self-similar Perturbations of a Friedmann Universe. *B. J. Carr & A. Yahil.* 360, 330, 150-D3 (1990)

YAHIL, AMOS. The Tidal Velocity Field in the Local Supercluster. *Per B. Lilje, Amos Yahil, & Bernard J. T. Jones.* 307, 91, 96-A3 (1986)

A Newly Discovered *IRAS* QSO Close to the Galactic Plane. *Michael A. Strauss, S. D. Kirhakos, & Amos Yahil.* 332, L45, 137-A10 (1988)

On the Universality of the Two-Point Galaxy Correlation Function. *Marc Davis, Avery Meiksin, Michael A. Strauss, L. Nicolaci da Costa, & Amos Yahil.* 333, L9, 144-B1 (1988)

Cosmological Velocity Correlations: Observations and Model Predictions. *Krzysztof Górski, Marc Davis, Michael A. Strauss, Simon D. M. White, & Amos Yahil.* 344, 1, 133-A9 (1989)

Rapidly Rotating Pulsars and the Equation of State. *James M. Lattimer, Madappa Prakash, Dieter Masak, & Amos Yahil.* 355, 241, 89-G10 (1990)

A Redshift Survey of IRAS Galaxies. I. Sample Selection. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 361, 49, 157-E11 (1990)

YAKOWITZ, D. S. The Radial Dependence of the $P_2(\cos\theta)$ Component and the Scale Height of the $P_4(\cos\theta)$ Component of the Internal Rotation of the Sun. *H. A. Hill, G. F. Rabaey, D. S. Yakowitz, & R. D. Rosenwald.* 310, 444, 136-G1 (1986)

YAMADA, M. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)

YAMADA, SHOICHI. Global Mixing in SN 1987A by the Asymmetric Shock Wave. *Shoichi Yamada & Katsuhiko Sato.* 358, L9, 127-B1 (1990)

YAMADA, T. VLBI Using a Telescope in Earth Orbit. I. The Observations. *G. S. Levy, R. P. Linfield, C. D. Edwards, J. S. Ulvestad, J. F. Jordan, Jr., S. J. DiNardo, C. S. Christensen, R. A. Preston, L. J. Skjerve, L. R. Stavert, B. F. Burke, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, K. B. Blaney, M. J. Maher, C. H. Ottenhoff, D. L. Jauncey, W. L. Peters, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, H. Hirabayashi, M. Morimoto, M. Inoue, T. Shiomi, N. Kawaguchi, H. Kunimori, M. Tokumaru, & F. Takahashi.* 336, 1098, 16-B1 (1989)

15 GHz Space VLBI Observations Using an Antenna on a TDRSS Satellite. *R. P. Linfield, G. S. Levy, C. D. Edwards, J. S. Ulvestad, C. H. Ottenhoff, H. Hirabayashi, M. Morimoto, M. Inoue, D. L. Jauncey, J. Reynolds, T. Nishimura, T. Hayashi, T. Takano, T. Yamada, J. W. Barrett, S. R. Conner, M. B. Heflin, J. Lehár, B. F. Burke, D. H. Roberts, A. R. Whitney, R. J. Cappallo, A. E. E. Rogers, M. W. Pospieszalski, S. J. DiNardo, L. J. Skjerve, L. R. Stavert, & M. J. Maher.* 358, 350, 126-D5 (1990)

YAMAGAMI, Y. Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

YAMAGATA, TOMOHIKO. Morphological Type Correlation between Nearest Neighbor Pairs of Galaxies. *Tomohiko Yamagata, Masafumi Noguchi, & Masanori Iye.* 338, 707, 42-E11 (1989)

YAMAGUCHI, A. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)

YAMAMOTO, S. Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

Observations of Some Oxygen-containing and Sulfur-containing Organic Molecules in Cold Dark Clouds. *W. M. Irvine, P. Friberg, N. Kaifu, K. Kawaguchi, Y. Kitamura, H. E. Matthews, Y. Minh, S. Saito, N. Ukita, & S. Yamamoto.* 342, 871, 113-B5 (1989)

Search for HC_3NH^+: The Upper Limit of the Column Density in TMC-1. *T. Amano, S. Saito, S. Yamamoto, K. Kawaguchi, H. Suzuki, M. Ohishi, & N. Kaifu.* 351, 500, 46-C6 (1990)

Interstellar Cyanomethane. *B. E. Turner, P. Friberg, W. M. Irvine, S. Saito, & S. Yamamoto.* 355, 546, 95-C4 (1990)

YAMAMOTO, SATOSHI. The Laboratory Observation of the $J=1$–0, $K=0$ Transition of the H_3S^+ Ion. *Shuji Saito, Satoshi Yamamoto, & Takayoshi Amano.* 314, L27, 33-C14 (1987)

Laboratory Detection and Astronomical Identification of a New Free Radical, $CCS(^3\Sigma^-)$. *Shuji Saito, Kentarou Kawaguchi, Satoshi Yamamoto, Masatoshi Ohishi, Hiroko Suzuki, & Norio Kaifu.* 317, L115, 78-F3 (1987)

Laboratory Detection of a New Carbon-Chain Molecule C_3S and Its Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Norio Kaifu, Hiroko Suzuki, & Masatoshi Ohishi.* 317, L119, 78-F7 (1987)

Laboratory and Astronomical Detection of the Cyclic H_3H Radical. *Satoshi Yamamoto, Shuji Saito, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, Norio Kaifu, & Akinori Murakami.* 322, L55, 145-D12 (1987)

Laboratory Microwave Spectroscopy of the Vibrational Satellites for the ν_7 and $2\nu_7$ States of C_4H and Their Astronomical Identification. *Satoshi Yamamoto, Shuji Saito, M. Guélin, J. Cernicharo, Hiroko Suzuki, & Masatoshi Ohishi.* 323, L149, 164-E8 (1987)

The Laboratory Spectrum of the PS Radical and Related Astronomical Search. *Masatoshi Ohishi, Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, Shuro Takano, Takashi Tsuji, & Wasaburo Unno.* 329, 511, 80-F9 (1988)

Laboratory Detection of a New Interstellar Free Radical $CH_2CN(^2B_1)$. *Shuji Saito, Satoshi Yamamoto, W. M. Irvine, L. M. Ziurys, Hiroko Suzuki, Masatoshi Ohishi, & Norio Kaifu.* 334, L113, 169-F10 (1988)

The Microwave Spectrum of the CP Radical and Related Astronomical Search. *Shuji Saito, Satoshi Yamamoto, Kentarou Kawaguchi, Masatoshi Ohishi, Hiroko Suzuki, Shin-ichi Ishikawa, & Norio Kaifu.* 341, 1114, 99-A1 (1989)

Detection of a New Circumstellar Carbon Chain Molecule C_4Si. *Masatoshi Ohishi, Norio Kaifu, Kentarou Kawaguchi, Akinori Murakami, Shuji Saito, Satoshi Yamamoto, Shin-ichi Ishikawa, Yoshihisa Fujita, Yutaka Shiratori, & William M. Irvine.* 345, L83, 165-B11 (1989)

Laboratory Microwave Spectroscopy of the Linear C_3 and C_3D Radicals and Related Astronomical Observation. *Satoshi Yamamoto, Shuji Saito, Hiroko Suzuki, Shuji Deguchi, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 348, 363, 5-E1 (1990)

Rotational Spectrum of the CCS Radical Studied by Laboratory Microwave Spectroscopy and Radio-astronomical Observations. *Satoshi Yamamoto, Shuji Saito, Kentarou Kawaguchi, Yoshihiro Chikada, Hiroko Suzuki, Norio Kaifu, Shin-ichi Ishikawa, & Masatoshi Ohishi.* 361, 318, 160-G7 (1990)

Laboratory Microwave Spectrum of the Cyclic C_3D Radical. *Satoshi Yamamoto & Shuji Saito.* 363, L13, 187-B7 (1990)

YAMAMOTO, TETSUO. Three Micron Ice-Band Features in the ρ Ophiuchi Sources. *Masuo Tanaka, Shuji Sato, Tetsuya Nagata, & Tetsuo Yamamoto.* 352, 724, 60-A3 (1990)
Three Micron Spectroscopy of Low-Mass Pre–Main-Sequence Stars. *Shuji Sato, Tetsuya Nagata, Masuo Tanaka, & Tetsuo Yamamoto.* 359, 192, 136-D7 (1990)
YAMAMOTO, Y. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)
YAMASHITA, K. Vacuum Ultraviolet Imagery of the Virgo Cluster Region. *T. Onaka, W. Tanaka, T. Watanabe, J. Watanabe, A. Yamaguchi, M. Nakagiri, K. Kodaira, M. Nakano, M. Sasaki, T. Tsujimura, & K. Yamashita.* 342, 238, 103-G3 (1989)
Test for the Cosmological Constant with the Number Count of Faint Galaxies. *M. Fukugita, F. Takahara, K. Yamashita, & Y. Yoshii.* 361, L1, 161-C7 (1990)
YAMASHITA, KOUJUN. X-Ray Spectra of the Cassiopeia A and Tycho Supernova Remnants and Their Element Abundances. *Hiroshi Tsunemi, Koujun Yamashita, Kuniaki Masai, Satio Hayakawa, & Katsuji Koyama.* 306, 248, 84-A8 (1986)
Isothermality of the Gas in the Coma Cluster. *John P. Hughes, Koujun Yamashita, Yoshiharu Okumura, Hiroshi Tsunemi, & Masaru Matsuoka.* 327, 615, 55-D6 (1988)
YAMASHITA, T. Detection of H53α Emission from M82: A Reliable Measure of the Ionization Rate and Its Implications. *P. J. Puxley, P. W. J. L. Brand, T. J. T. Moore, C. M. Mountain, N. Nakai, & T. Yamashita.* 345, 163, 151-B1 (1989)
High-Resolution Mapping of the Bipolar Outflow in NGC 2071: Evidence for a Wind-driven Molecular Outflow. *Y. Kitamura, R. Kawabe, T. Yamashita, & M. Hayashi.* 363, 180, 184-D1 (1990)
YAMASHITA, TAKUYA. Infrared Reflection Nebulae around GL 490 and R Monocerotis: Shell Structure and Possible Large Dust Grains. *Takuya Yamashita, Shuji Sato, Tetsuya Nagata, Ian Gatley, Saeko S. Hayashi, & Yasuo Fukui.* 336, 832, 12-G2 (1989)
A New CO Bipolar Flow and Dense Disk System Associated with the Infrared Reflection Nebula GGD 27 IRS. *Takuya Yamashita, Hiroko Suzuki, Norio Kaifu, Motohide Tamura, Charles M. Mountain, & Toby J. T. Moore.* 347, 894, 194-E7 (1989)
The Inner, Dense Part of the Protostellar Disk: A CS $J = 7$–6 Observation around NGC 2071 IRS. *Takuya Yamashita, Saeko S. Hayashi, Norio Kaifu, Osamu Kameya, Nobuharu Ukita, & Tetsuo Hasegawa.* 347, L85, 199-E1 (1989)
The Density Structure of the Protostellar Disk: A Power-Law Distribution of the Dust around GGD 27 IRS. *Takuya Yamashita, Shuji Sato, Norio Kaifu, & Saeko S. Hayashi.* 365, 615, 215-G9 (1990)
YAMAUCHI, M. X-Ray Spectral Signatures of Very Thick Cold Matter in the Spectra of the Seyfert 1 Galaxies NGC 7469 and IC 4329A. *L. Piro, M. Yamauchi, & M. Matsuoka.* 360, L35, 156-B7 (1990)
X-Ray Spectral Variability and Complex Absorption in the Seyfert 1 Galaxies NGC 4051 and MCG −6-30-15. *M. Matsuoka, L. Piro, M. Yamauchi, & T. Murakami.* 361, 440, 163-E6 (1990)
YAMAUCHI, S. Optically Thin Hot Plasma near the Galactic Center: Mapping Observations of the 6.7 keV Iron Line. *S. Yamauchi, M. Kawada, K. Koyama, H. Kunieda, & Y. Tawara.* 365, 532, 214-G5 (1990)
YAMAUCHI, SHIGEO. Hard X-Ray Emission from the Carina Nebula. *Katsuji Koyama, Ikuko Asaoka, Naoko Ushimaru, Shigeo Yamauchi, & Robin H. D. Corbet.* 362, 215, 171-G3 (1990)
YAN, M. A New Mechanism for Small Redshift of H I Broad Lines with Respect to C IV Line in Quasars. *F. H. Cheng, J. H. You, & M. Yan.* 358, 18, 122-C1 (1990)
YANAGIDA, T. Unstable Neutrino Reheating of the Universe and Distortion of Cosmic Background Radiation Spectrum. *M. Fukugita, M. Kawasaki, & T. Yanagida.* 342, L1, 109-A6 (1989)
Unstable Neutrino Reheating of the Universe and Distortion of Cosmic Background Radiation Spectrum: Erratum. *M. Fukugita, M. Kawasaki, & T. Yanagida.* 345, L103, 165-D5 (1989) (Orig. paper in 342, L1, 109-A6 (1989))
YANG, G. Surface Waves in an Incompressible Fluid: Resonant Instability Due to Velocity Shear. *Joseph V. Hollweg, G. Yang, V. M. Cadez, & B. Gakovic.* 349, 335, 18-A7 (1990)
YANG, JI. A Newly Discovered Molecular Cloud in Cepheus OB4. *Ji Yang, Yasuo Fukui, Tomofumi Umemoto, Hideo Ogawa, & Hua Chen.* 362, 538, 177-D5 (1990)
YANG, S. Discovery of High-Degree Nonradial Oscillations in Rapidly Rotating δ Scuti Stars? *G. A. H. Walker, S. Yang, & G. G. Fahlman.* 320, L139, 121-E9 (1987)
The Primary Orbit and Absorption Lines of HDE 226868 (Cygnus X-1). *Z. Ninkov, G. A. H. Walker, & S. Yang.* 321, 425, 126-G4 (1987)
The He II λ4686 and Hα Emission Lines of Cygnus X-1. *Z. Ninkov, G. A. H. Walker, & S. Yang.* 321, 438, 127-A3 (1987)
A Search for Substellar Companions to Solar-type Stars. *Bruce Campbell, G. A. H. Walker, & S. Yang.* 331, 902, 118-G1 (1988)
Yellow Giants: A New Class of Radial Velocity Variable? *G. A. H. Walker, S. Yang, Bruce Campbell, & Alan W. Irwin.* 343, L21, 125-D1 (1989)
Rapid Line-Profile Variations of the Be Star ζ Tauri. *S. Yang, G. A. H. Walker, G. M. Hill, & P. Harmanec.* 74, 595, 38-E11 (1990)
YANG, SHELBY. Numerical Models of Rotating Protostars. *Richard H. Durisen, Shelby Yang, Patrick Cassen, & Steven W. Stahler.* 345, 959, 162-D9 (1989)
Numerical Models of Rotating Protostars: Erratum. *Richard H. Durisen, Shelby Yang, Patrick Cassen, & Steven W. Stahler.* 361, 720, 167-A12 (1990) (Orig. paper in 345, 959, 162-D9 (1989))
YANG, STEPHENSON. Detection of Radial Velocity Variations in the Rapidly Oscillating Ap Star HR 1217. *Jaymie M. Matthews, William H. Wehlau, Gordon A. H. Walker, & Stephenson Yang.* 324, 1099, 15-E10 (1988)
YANG, W.-H. Force-free Magnetic Fields: The Magneto-frictional Method. *W.-H. Yang, P. A. Sturrock, & S. K. Antiochos.* 309, 383, 124-B2 (1986)
Coronal Magnetic Fields Produced by Photospheric Shear. *J. A. Klimchuk, P. A. Sturrock, & W.-H. Yang.* 335, 456, 175-F11 (1988)
Discrete Events and Solar Wind Energization. *W.-H. Yang & R. W. Schunk.* 343, 494, 124-B12 (1989)
Expansion of Solar-Terrestrial Low-β Plasmoid. *W.-H. Yang.* 344, 966, 146-A10 (1989)
Expanding Force-free Magnetized Plasmoid. *W.-H. Yang.* 348, L73, 13-D1 (1990)
YANNY, BRIAN. Forbidden [O II] and [O III] Emission 29″ from a QSO Absorption-Line Region. *Brian Yanny, Don Hamilton, R. A. Schommer, T. B. Williams, & D. G. York.* 323, L19, 158-B7 (1987)
The Extent of Nebular Emission Associated with the $z = 0.525$ Absorber near AO 0235+164. *Brian Yanny, Donald G. York, & J. S. Gallagher.* 338, 735, 43-A1 (1989)
Emission-Line Objects near QSO Absorbers. I. Narrow-Band Imaging and Candidate List. *Brian Yanny, D. G. York, & T. B. Williams.* 351, 377, 44-F1 (1990)
Emission-Line Objects near QSO Absorbers. II. Analysis and Implications of Star-forming Objects at Moderate Redshift. *Brian Yanny.* 351, 396, 45-A1 (1990)
A Search with a Fiber-optic Array for Emission near QSO Absorbers. *Brian Yanny, Sam Barden, John S. Gallagher III, & D. G. York.* 352, 413, 56-C3 (1990)
YATOM, H. Theoretical Non-Maxwellian Particle Velocity Distribution Functions for Spherically Symmetric Solar Wind–like Description for Each Species. *S. Cuperman, H. Yatom, M. Dryer, & D. Lewis.* 314, 404, 32-E11 (1987)
YAU, HORNG-TZER. A Rigorous Examination of the Chandrasekhar Theory of Stellar Collapse. *Elliott H. Lieb & Horng-Tzer Yau.* 323, 140, 154-E12 (1987)
YEE, H. K. C. Surveys of Fields around Quasars. III. Intermediate-Redshift Quasars: Catalog and Background Galaxy Counts. *H. K. C. Yee, Richard F. Green, & H. S. Stockman.* 62, 681, 40-A13 (1986)

Surveys of Fields around Quasars. IV. Luminosity of Galaxies at $z \cong 0.6$ and Preliminary Evidence for the Evolution of the Environment of Radio-loud Quasars. *H. K. C. Yee & Richard F. Green.* 319, 28, 93-C12 (1987)

The Late-Type Stellar Content of NGC 55. *Christopher J. Pritchet, Harvey B. Richer, David Schade, Dennis Crabtree, & H. K. C. Yee.* 323, 79, 154-A3 (1987)

Spatially Resolved Spectroscopy of the Gravitational Lens System 2237+030. *M. M. De Robertis & H. K. C. Yee.* 332, L49, 137-B3 (1988)

YEE, SELWYN. Submillimeter Observations of the Sun from the James Clerk Maxwell Telescope. *Charles A. Lindsey, Selwyn Yee, Thomas L. Roellig, Richard Hills, David Brock, William Duncan, Graeme Watt, Adrian Webster, & John T. Jefferies.* 353, L53, 73-C6 (1990)

YEH, TYAN. Magnetic Structure of a Flux Rope. *Tyan Yeh.* 305, 884, 78-E7 (1986)

Interaction between Two Flux Ropes Immersed in the Solar Atmosphere. *Tyan Yeh.* 328, 954, 73-F3 (1988)

YELLE, ROGER V. A New Approach to Resonance Line Scattering in Planetary Atmospheres. *Roger V. Yelle.* 332, 514, 128-F8 (1988)

Resonance Line Transfer Calculations by Doubling Thin Layers. I. Comparison with Other Techniques. *Roger V. Yelle & Lloyd Wallace.* 346, 481, 172-B3 (1989)

Resonance Line Transfer Calculations by Doubling Thin Layers. II. The Use of the R_{II} Redistribution Function. *L. Wallace & Roger V. Yelle.* 346, 489, 172-C1 (1989)

YENTIS, D. J. On the Short Time Scale Variability of the Seyfert Galaxy NGC 6814. *J. H. Beall, K. S. Wood, & D. J. Yentis.* 308, 563, 115-B1 (1986)

YEPES, G. Antimatter and Light Element Yields: Could Dark Matter be Baryonic? *R. Domínguez-Tenreiro & G. Yepes.* 317, L1, 71-A4 (1987)

The Effects of Antimatter on Primordial Nucleosynthesis. *G. Yepes & R. Domínguez-Tenreiro.* 335, 3, 170-B1 (1988)

YIN, Q. F. The Relationship between Stellar Population and Radio Continuum Emission in Spiral Galaxies. *David Burstein, J. J. Condon, & Q. F. Yin.* 315, L99, 49-C8 (1987)

A 1.49 GHz Supplementary Atlas of Spiral Galaxies with *H*-Magnitudes. *J. J. Condon, Q. F. Yin, & David Burstein.* 65, 543, 36-G1 (1987)

A New Starburst Model Applied to the Clumpy Irregular Galaxy Markarian 325. *J. J. Condon & Q. F. Yin.* 357, 97, 112-C4 (1990)

YIP, PING F. Gravitational Landau Damping for an Isotropic Cluster of Stars. *Salman Habib, Henry E. Kandrup, & Ping F. Yip.* 309, 176, 121-G11 (1986)

YOCK, P. C. M. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

YOON, PETER H. Collective Plasma Microinstability as a Possible Mechanism for the One-sided Core-Jet Emission of Extragalactic Radio Sources. *Peter H. Yoon & Tom Chang.* 343, 31, 118-D7 (1989)

YORK, D. G. High-Resolution Spectroscopy of the $z = 1.79$ Absorption-Line System toward B2 1225+317. *Jill Bechtold, Richard F. Green, & D. G. York.* 312, 50, 1-E5 (1987)

The Local Interstellar Medium. VII. The Local Interstellar Wind and Interstellar Material in Front of the Nearby Star α Ophiuchi. *P. C. Frisch, D. G. York, & J. R. Fowler.* 320, 842, 119-A10 (1987)

Forbidden [O II] and [O III] Emission 29″ from a QSO Absorption-Line Region. *Brian Yanny, Don Hamilton, R. A. Schommer, T. B. Williams, & D. G. York.* 323, L19, 158-B7 (1987)

Element Abundances at High Redshift. *David M. Meyer, D. E. Welty, & D. G. York.* 343, L37, 132-B1 (1989)

Emission-Line Objects near QSO Absorbers. I. Narrow-Band Imaging and Candidate List. *Brian Yanny, D. G. York, & T. B. Williams.* 351, 377, 44-F1 (1990)

Interstellar Absorption Lines in the Galaxy NGC 1705. *D. G. York, A. Caulet, P. Rybski, J. Gallagher, J. C. Blades, D. C. Morton, & W. Wamsteker.* 351, 412, 45-B9 (1990)

A Search with a Fiber-optic Array for Emission near QSO Absorbers. *Brian Yanny, Sam Barden, John S. Gallagher III, & D. G. York.* 352, 413, 56-C3 (1990)

Ionization in Nearby Interstellar Gas. *P. C. Frisch, D. E. Welty, D. G. York, & J. R. Fowler.* 357, 514, 119-A5 (1990)

Dust in QSO Absorption-Line Systems. *J. P. Ostriker, M. S. Vogeley, & D. G. York.* 364, 405, 201-A5 (1990)

Studies of the Local Interstellar Medium. VIII. Morphology and Kinematics of the Diffuse Interstellar Clouds toward Orion. *P. C. Frisch, K. Sembach, & D. G. York.* 364, 540, 202-G4 (1990)

YORK, DONALD G. Extent of Ionized Calcium in the Outer Parts of Galaxies. *Donald C. Morton, Donald G. York, & Edward B. Jenkins.* 302, 272, 31-A13 (1986)

The Local Interstellar Medium. IV. The Line of Sight to θ Scorpii. *David C. Eder & Donald G. York.* 308, 232, 110-E11 (1986)

An Upper Limit on the Microwave Background Temperature at $z = 1.776$. *David M. Meyer, John H. Black, Frederic H. Chaffee, Jr., Craig B. Foltz, & Donald G. York.* 308, L37, 120-E1 (1986)

On the Origin of Some QSO Absorption Lines. *Donald G. York, Michael Dopita, Richard Green, & Jill Bechtold.* 311, 610, 154-E2 (1986)

Observations of Weak C IV Absorption toward the QSOs 2000–330 and 2126–158. *David M. Meyer & Donald G. York.* 315, L5, 45-A8 (1987)

Observations of Ni II Absorption at $z = 2.811$ toward the QSO PKS 0582–250. *David M. Meyer & Donald G. York.* 319, L45, 107-B13 (1987)

Observations of High-Redshift Ca II Absorption in QSO Spectra. *J. Gordon Robertson, Donald C. Morton, J. Chris Blades, Donald G. York, & David M. Meyer.* 325, 635, 27-D13 (1988)

A Search List of Lines for Quasi-stellar Object Absorption Systems. *Donald C. Morton, Donald G. York, & Edward B. Jenkins.* 68, 449, 29-F1 (1988)

A Search List of Lines for Quasi-stellar Object Absorption Systems: Erratum. *Donald C. Morton & Donald G. York.* 69, 701, 11-E11 (1989) (Orig. paper in 68, 449, 29-F1 (1988))

The Extent of Nebular Emission Associated with the $z = 0.525$ Absorber near AO 0235+164. *Brian Yanny, Donald G. York, & J. S. Gallagher.* 338, 735, 43-A1 (1989)

Absorption Lines at $z > 2.3$ in Spectra of Quasi-stellar Objects. *Pushpa Khare, Donald G. York, & Richard Green.* 347, 627, 191-A7 (1989)

YORKA, SANDRA B. Model Atmospheres for R Stars. *Hollis R. Johnson & Sandra B. Yorka.* 311, 299, 149-D4 (1986)

YORKE, HAROLD W. Spectral and Isophotal Appearance of Three-dimensional Protostellar Models. *Alan P. Boss & Harold W. Yorke.* 353, 236, 65-A9 (1990)

The Formation Phase of the Solar Nebula. *Peter Bodenheimer, Harold W. Yorke, Michał Różyczka, & Joel E. Tohline.* 355, 651, 96-F4 (1990)

YOSHIDA, A. Interpretation of Multiple Absorption Features in a Gamma-Ray Burst Spectrum. *E. E. Fenimore, J. P. Conner, R. I. Epstein, R. W. Klebesadel, J. G. Laros, A. Yoshida, M. Fujii, K. Hayashida, M. Itoh, T. Murakami, J. Nishimura, Y. Yamagami, I. Kondo, & N. Kawai.* 335, L71, 185-D5 (1988)

Discovery of a Prominent Cyclotron Absorption Feature from the Transient X-Ray Pulsar X0331+53. *K. Makishima, T. Mihara, M. Ishida, T. Ohashi, T. Sakao, M. Tashiro, T. Tsuru, T. Kii, F. Makino, T. Murakami, F. Nagase, Y. Tanaka, H. Kunieda, Y. Tawara, S. Kitamoto, S. Miyamoto, A. Yoshida, & M. J. L. Turner.* 365, L59, 219-C11 (1990)

YOSHIDA, HIROSHI. Gravitational Lens Effects on the Redshift-Volume Measurement of the Density Parameter. *Minoru Omote & Hiroshi Yoshida.* 361, 27, 157-D1 (1990)

YOSHII, Y. Test for the Cosmological Constant with the Number Count of Faint Galaxies. *M. Fukugita, F. Takahara, K. Yamashita, & Y. Yoshii.* 361, L1, 161-C7 (1990)

YOSHII, YUZURU. Initial Mass Function for Zero-Metal Stars. *Yuzuru Yoshii & Hideyuki Saio.* 301, 587, 22-B3 (1986)
Galactic Evolution and Cosmology: Probing the Cosmological Deceleration Parameter. *Yuzuru Yoshii & Fumio Takahara.* 326, 1, 32-A7 (1988)
On the Redshift-Volume Measurement of the Cosmological Density Parameter. *Yuzuru Yoshii & Fumio Takahara.* 346, 28, 166-D5 (1989)
Viscous Evolution of Self-gravitating Galactic Disks within a Dark Halo. *Hideyuki Saio & Yuzuru Yoshii.* 363, 40, 182-F4 (1990)
YOSHIMORI, M. Observations of Solar Flare Gamma-Ray Spectra with the *Hinotori* Satellite. *M. Yoshimori.* 73, 227, 20-G5 (1990)
YOSHIOKA, SATOSHI. On the Origin of Possible Deviation from the Blackbody Spectrum of the Cosmic Microwave Background Radiation: Inverse Compton Hypothesis Based upon the Explosion Scenario. *Satoshi Yoshioka & Satoru Ikeuchi.* 323, L7, 158-A10 (1987)
The Large-Scale Structure of the Universe and the Division of Space. *Satoshi Yoshioka & Satoru Ikeuchi.* 341, 16, 84-B13 (1989)
Collision of Cosmological Shock Waves Produced by Explosions and Formation of Large-Scale Structures. *Satoshi Yoshioka & Satoru Ikeuchi.* 360, 352, 150-F1 (1990)
YOU, J. H. New Considerations on the Broad-Line Regions of Quasars. *J. H. You & F. H. Cheng.* 322, 174, 139-G2 (1987)
The Radiative Association of C and O and C^+ and O. *A. Dalgarno, M. L. Du, & J. H. You.* 349, 675, 23-F1 (1990)
A New Mechanism for Small Redshift of H I Broad Lines with Respect to C IV Line in Quasars. *F. H. Cheng, J. H. You, & M. Yan.* 358, 18, 122-C1 (1990)
YOUNG, A. Neutral Beams in Two-Ribbon Flares and in the Geomagnetic Tail. *P. C. H. Martens & A. Young.* 73, 333, 22-C9 (1990)
YOUNG, ARTHUR. The Incidence of Close Binaries among Stars of Low Mass: Astrophysical Binaries. *Arthur Young, Sina Sadjadi, & Eugene Harlan.* 314, 272, 31-B1 (1987)
Duplicity among Stars with Strong Chromospheric Ca II Emission Lines: A Statistical Survey. *Arthur Young, Richard A. Mielbrecht, & Helmut A. Abt.* 317, 787, 74-F1 (1987)
Spectroscopy of the Optical Photosphere of the Hot Pulsating Star BW Vulpeculae. *Ingemar Furenlid, Arthur Young, Thomas Meylan, Chester Haag, & Greg Crinklaw.* 319, 264, 95-G9 (1987)
Fluorescence-induced Chromospheric Hα Emission from the K Dwarf Component of V471 Tauri. I. The 1983 Epoch. *Arthur Young, Andrew Skumanich, & Victoria Paylor.* 334, 397, 159-B1 (1988)
A Study of Excess Hα Emission in Chromospherically Active M Dwarf Stars. *Arthur Young, Andrew Skumanich, John R. Stauffer, Bernard W. Bopp, & Eugene Harlan.* 344, 427, 138-C5 (1989)
High-Latitude Spot and Plage Activity on the Rapidly Rotating M Dwarf Star Gliese 890. *Arthur Young, Andrew Skumanich, Keith B. MacGregor, & Scott Temple.* 349, 608, 22-G3 (1990)
YOUNG, DAVID T. Energetic Ion Fluxes in the Inner Coma of Comet P/Halley. *Aharon Eviatar, Raymond Goldstein, David T. Young, Hans Balsiger, Helmut Rosenbauer, & Stephen Fuselier.* 339, 545, 56-E13 (1989)
YOUNG, E. C. M. The Origin of the Extragalactic γ-Ray Background in the 35–100 MeV Range. *E. C. M. Young & K. N. Yu.* 330, L5, 96-C10 (1988)
Correlation Analysis of Gamma-Ray Data with Varying Sensitivities. *E. C. M. Young & K. N. Yu.* 348, 621, 10-D1 (1990)
YOUNG, E. T. High-Resolution *IRAS* Observations of the Rho Ophiuchi Cloud Core. *E. T. Young, C. J. Lada, & B. A. Wilking.* 304, L45, 66-B9 (1986)
YOUNG, ERICK T. Spectroscopic Evidence for Infall around an Extraordinary IRAS Source in Ophiuchus. *Christopher K. Walker, Charles J. Lada, Erick T. Young, Philip R. Maloney, & Bruce A. Wilking.* 309, L47, 125-F9 (1986)
An Unusual Outflow around IRAS 16293–2422. *Christopher K. Walker, Charles J. Lada, Erick T. Young, & Michael Margulis.* 332, 335, 126-G4 (1988)
IRAS Observations of Dust Heating and Energy Balance in the Rho Ophiuchi Dark Cloud. *Thomas P. Greene & Erick T. Young.* 339, 258, 52-B12 (1989)
IRAS Observations of the ρ Ophiuchi Infrared Cluster: Spectral Energy Distributions and Luminosity Function. *Bruce A. Wilking, Charles J. Lada, & Erick T. Young.* 340, 823, 78-F3 (1989)
Young Stellar Objects in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, & Erick T. Young.* 345, 906, 161-G2 (1989)
A Spectacular Molecular Outflow in the Monoceros OB1 Molecular Cloud. *Michael Margulis, Charles J. Lada, Tetsuo Hasegawa, Saeko S. Hayashi, Masahiko Hayashi, Norio Kaifu, Ian Gatley, Thomas P. Greene, & Erick T. Young.* 352, 615, 58-F1 (1990)
Observations of the Dense Gas in the IRAS 16293–2422 Outflow System. *Christopher K. Walker, John E. Carlstrom, John H. Bieging, Charles J. Lada, & Erick T. Young.* 364, 173, 196-B12 (1990)
YOUNG, J. S. Molecular Gas in High-Luminosity *IRAS* Galaxies. *D. B. Sanders, N. Z. Scoville, J. S. Young, B. T. Soifer, F. P. Schloerb, W. L. Rice, & G. E. Danielson.* 305, L45, 80-B12 (1986)
Detection of CO(1 → 0) Emission and Optical Imaging of the Seyfert Galaxy/QSO Markarian 231. *D. B. Sanders, J. S. Young, N. Z. Scoville, B. T. Soifer, & G. E. Danielson.* 312, L5, 7-A8 (1987)
YOUNG, JUDITH S. CO in H I–deficient Virgo Cluster Spiral Galaxies. *Jeffrey D. Kenney & Judith S. Young.* 301, L13, 20-B12 (1986)
Distributions of ^{13}CO Emission in the Disks of Late-Type Spiral Galaxies. *Judith S. Young & D. B. Sanders.* 302, 680, 38-B1 (1986)
CO Observations of Infrared Bright Galaxies: The Efficiency of Star Formation. *Judith S. Young, F. Peter Schloerb, Jeffrey D. Kenney, & Steven D. Lord.* 304, 443, 58-F4 (1986)
The Distribution of Interstellar Matter in the Scd Galaxy NGC 6946. I. The Neutral Hydrogen Disk. *Linda J. Tacconi & Judith S. Young.* 308, 600, 115-E2 (1986)
The Molecular Content of Interacting and Isolated Galaxies: The Effect of Environment on the Efficiency of Star Formation. *Judith S. Young, Jeffrey D. Kenney, Linda Tacconi, M. J. Claussen, Y.-L. Huang, Lowell Tacconi-Garman, Shuding Xie, & F. Peter Schloerb.* 311, L17, 152-B11 (1986)
The CO Contents of Dwarf Irregular Galaxies. *Linda J. Tacconi & Judith S. Young.* 322, 681, 147-C1 (1987)
Molecular Clouds in the Nuclear Region of NGC 3079. *Judith S. Young, M. J. Claussen, & Nick Z. Scoville.* 324, 115, 2-C6 (1988)
CO Observations of All Virgo Cluster Spiral Galaxies Brighter than $B_T^0 = 12$. *Jeffrey D. Kenney & Judith S. Young.* 66, 261, 5-D1 (1988)
Low-Mass Spiral Galaxies with Little Molecular Gas and Prodigious Star Formation. *Jeffrey D. Kenney & Judith S. Young.* 326, 588, 40-A7 (1988)
Molecular and Ionized Gas in the Peculiar Galaxy NGC 2146. *Judith S. Young, M. J. Claussen, S. G. Kleinmann, Vera C. Rubin, & Nick Scoville.* 331, L81, 121-D4 (1988)
Hidden H II Regions in Infrared-bright Galaxies. *Judith S. Young, S. G. Kleinmann, & L. E. Allen.* 334, L63, 169-B1 (1988)
Search for Molecular Oxygen in VII Zw 31. *Paul F. Goldsmith & Judith S. Young.* 341, 718, 94-C1 (1989)
Global Properties of Infrared Bright Galaxies. *Judith S. Young, Shuding Xie, Jeffrey D. P. Kenney, & Walter L. Rice.* 70, 699, 29-C1 (1989)
The Effects of Environment on the Molecular and Atomic Gas Properties of Large Virgo Cluster Spirals. *Jeffrey D. P. Kenney & Judith S. Young.* 344, 171, 135-B7 (1989)
Molecular Gas, the Interstellar Medium, and Star Formation in S0 and Sa Galaxies. *Harley A. Thronson, Jr., Linda Tacconi, Jeffrey Kenney, Matthew A. Greenhouse, Michael Margulis, Lowell Tacconi-Garman, & Judith S. Young.* 344, 747, 143-E10 (1989)
The Distribution of the Interstellar Medium in the Scd Galaxy NGC 6946. II. The CO Data. *Linda J. Tacconi & Judith S. Young.* 71, 455, 41-F1 (1989)
The Ratio of Molecular to Atomic Gas in Spiral Galaxies as a Function of Morphological Type. *Judith S. Young & Patricia M. Knezek.* 347, L55, 199-A9 (1989)
The Origin of the Far-Infrared Luminosity from Spiral Galaxies. *Nicholas A. Devereux & Judith S. Young.* 350, L25, 37-A10 (1990)
The Distribution of the Interstellar Medium in the Scd Galaxy NGC 6946. III. Azimuthal Variations in the Molecular and Atomic Components. *Linda J. Tacconi & Judith S. Young.* 352, 595, 58-D5 (1990)

The Asymmetric CO Distribution in the Virgo Cluster Spiral NGC 4419. *Jeffrey D. P. Kenney, Judith S. Young, Tetsuo Hasegawa, & Naomasa Nakai.* 353, 460, 69-F7 (1990)

Efficient Star Formation in the Spiral Arms of M51. *Steven D. Lord & Judith S. Young.* 356, 135, 100-F7 (1990)

The Gas/Dust Ratio in Spiral Galaxies. *Nicholas A. Devereux & Judith S. Young.* 359, 42, 134-E7 (1990)

YOUNG, K. CO Emission from Centaurus A. *T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, R. J. Howard, C. R. Masson, D. B. Sanders, B. Veidt, & K. Young.* 322, L73, 152-B8 (1987)

CO Emission from Evolved Stars and Proto–Planetary Nebulae. *G. R. Knapp, B. M. Sutin, T. G. Phillips, B. N. Ellison, J. B. Keene, R. B. Leighton, C. R. Masson, W. Steiger, B. Veidt, & K. Young.* 336, 822, 12-F6 (1989)

A Very Fast Molecular Outflow from the Proto–Planetary Nebula CRL 618. *C. F. Gammie, G. R. Knapp, K. Young, T. G. Phillips, & E. Falgarone.* 345, L87, 165-C1 (1989)

YOUNG, PETER. High-Resolution Spectra of 24 Low-Redshift QSOs: The Properties of Mg II Absorption Systems. *David Tytler, A. Boksenberg, Wallace L. W. Sargent, Peter Young, & Daniel Kunth.* 64, 667, 27-B8 (1987)

YOUNG, TIMOTHY R. Absolute Light Curves of Type II Supernovae. *Timothy R. Young & David Branch.* 342, L79, 117-D9 (1989)

YU, K. N. The Origin of the Extragalactic γ-Ray Background in the 35–100 MeV Range. *E. C. M. Young & K. N. Yu.* 330, L5, 96-C10 (1988)

Correlation Analysis of Gamma-Ray Data with Varying Sensitivities. *E. C. M. Young & K. N. Yu.* 348, 621, 10-D1 (1990)

YU, M. Y. Alfvén Vortices in a Strongly Magnetized Electron-Positron Plasma. *M. Y. Yu, Padma K. Shukla, & L. Stenflo.* 309, L63, 125-G11 (1986)

YU, QIAN ZHONG. Near-Infrared Photometric Study of Open Star Cluster IC 1805. *Ram Sagar & Qian Zhong Yu.* 353, 174, 64-C7 (1990)

YU, T. L. Experimental Evidence for the Effect of Resonance Structures on Electron Excitation Rates for Si III. *T. L. Yu, M. Finkenthal, & H. W. Moos.* 305, 880, 78-E3 (1986)

A Comparison of the C III, O V, F VI, and Ne VII $\Delta n = 0(2–2)$ Line Emissions from a Laboratory Plasma with Theoretical Predictions and Astrophysical Observations. *M. Finkenthal, T. L. Yu, S. Lippmann, L. K. Huang, H. W. Moos, B. C. Stratton, A. K. Bhatia, R. D. Bengston, W. L. Hodge, P. E. Phillips, J. L. Porter, T. R. Price, T. L. Rhodes, B. Richards, C. P. Ritz, & W. L. Rowan.* 313, 920, 26-G3 (1987)

Laboratory Study of the Spectrum of Highly Ionized Calcium in the 100–250 Å Range Applied to Solar Flare Diagnostics. *S. Lippmann, M. Finkenthal, L. K. Huang, H. W. Moos, B. C. Stratton, T. L. Yu, A. K. Bhatia, & W. L. Hodge.* 316, 819, 61-A11 (1987)

YUAN, CHI. Resonance Excitation of Spiral Density Waves in a Gaseous Disk. I. A Linear Theory. *Chi Yuan & Ye Cheng.* 340, 216, 69-F11 (1989)

Equilibrium Models for Self-gravitating Inviscid Disks Resulting from the Collapse of Rotating Clouds. *Sally W. Stemwedel, Chi Yuan, & Patrick Cassen.* 351, 206, 40-E7 (1990)

YUDA, T. Upper Limit for Ultra–High-Energy Gamma Rays from SN 1987A Obtained by Cherenkov Technique at Large Zenith Angles. *I. A. Bond, E. Budding, M. J. Conway, K. B. Fenton, H. Fujii, Z. Fujii, M. Fujimoto, H. Hasegawa, S. Hayashida, M. Honda, N. Hotta, J. E. Humble, S. Kabe, K. Kasahara, T. Kifune, G. D. Lythe, A. Masaike, Y. Matsubara, K. Mitsui, Y. Miura, M. Mori, K. Murakami, Y. Muraki, M. Nagano, K. Nakamura, T. Nakamura, P. M. Norris, S. Ogio, Y. Ohashi, A. Okada, To. Saito, M. Sakata, H. Sato, S. Shibata, M. Shima, H. M. Shimizu, M. Spencer, J. R. Storey, T. Tanimori, M. Teshima, S. Torii, K. Uchino, Y. Watase, M. D. Woodhams, Y. Yamamoto, P. C. M. Yock, & T. Yuda (The JANZOS Collaboration).* 344, L17, 140-B9 (1989)

YUN, JOÃO LIN. Star Formation in Small Globules: Bart Bok Was Correct! *João Lin Yun & Dan P. Clemens.* 365, L73, 219-E1 (1990)

YUN, MIN SU. Molecular Clouds and Cloud Cores in the Inner Galaxy. *N. Z. Scoville, Min Su Yun, D. P. Clemens, D. B. Sanders, & W. H. Waller.* 63, 821, 13-G12 (1987)

YUNG, Y. L. The Structure of Io's Thermal Corona and Implications for Atmospheric Escape. *M. E. Summers, D. F. Strobel, Y. L. Yung, J. T. Trauger, & F. Mills.* 343, 468, 123-G5 (1989)

YUNG, YUK L. Radiative Transfer in a Sphere Illuminated by a Parallel Beam: An Integral Equation Approach. *Run-Lie Shia & Yuk L. Yung.* 301, 554, 21-F10 (1986)

YUSEF-ZADEH, F. A Low-Energy Jet Emanating from the Galactic Nucleus? *F. Yusef-Zadeh, Mark Morris, O. B. Slee, & G. J. Nelson.* 300, L47, 13-C10 (1986)

Nonthermal Radio Emission from the Galactic Center Arc. *F. Yusef-Zadeh, Mark Morris, O. B. Slee, & G. J. Nelson.* 310, 689, 141-D12 (1986)

Structural Details of the Sagittarius A Complex: Evidence for a Large-Scale Poloidal Magnetic Field in the Galactic Center Region. *F. Yusef-Zadeh & M. Morris.* 320, 545, 115-D12 (1987)

The Large-Scale Radio Structure of R Aquarii. *J. M. Hollis, M. Kafatos, A. G. Michalitsianos, R. J. Oliversen, & F. Yusef-Zadeh.* 321, L55, 129-F6 (1987)

RX Puppis: Detection of Asymmetrical Radio Structure. *J. M. Hollis, F. Yusef-Zadeh, T. J. Cornwell, R. J. Oliversen, A. G. Michalitsianos, & M. Kafatos.* 337, 514, 23-G9 (1989)

H I Absorption Measurements over the Galactic Center Radio Arc Region. *J. Lasenby, A. N. Lasenby, & F. Yusef-Zadeh.* 343, 177, 120-D7 (1989)

R Aquarii: Evidence for a Two-sided Radio Jet and a Circumbinary SiO Maser. *M. Kafatos, J. M. Hollis, F. Yusef-Zadeh, A. G. Michalitsianos, & M. Elitzur.* 346, 991, 179-D9 (1989)

Detection of Synchrotron Emission from a Unique HH–like Object in Orion. *F. Yusef-Zadeh, T. J. Cornwell, Bo Reipurth, & M. Roth.* 348, L61, 13-C1 (1990)

Structural Details of the Orion Nebula: Detection of a Network of Stringlike Ionized Features. *F. Yusef-Zadeh.* 361, L19, 161-E1 (1990)

YUSEF-ZADEH, FARHAD. The Linear Filaments of the Radio Arc near the Galactic Center. *Farhad Yusef-Zadeh & Mark Morris.* 322, 721, 147-F7 (1987)

The Northern Extension of the Radio Arc near the Galactic Center. *Farhad Yusef-Zadeh & Mark Morris.* 329, 729, 84-F4 (1988)

A New System of Nonthermal Filaments near the Galactic Center. *John Bally & Farhad Yusef-Zadeh.* 336, 173, 3-C1 (1989)

The Thermal, Arched Filaments of the Radio Arc near the Galactic Center: Magnetohydrodynamic-induced Ionization? *Mark Morris & Farhad Yusef-Zadeh.* 343, 703, 128-A1 (1989)

ZABLUDOFF, ANN I. The Kinematics of Abell Clusters. *Ann I. Zabludoff, John P. Huchra, & Margaret J. Geller.* 74, 1, 30-B1 (1990)

ZAGLAUER, HELMUT W. Gravitational Radiation, Close Binary Systems, and the Brans-Dicke Theory of Gravity. *Clifford M. Will & Helmut W. Zaglauer.* 346, 366, 170-F1 (1989)

ZAIDMAN, E. G. Nonlinear Twist-Kink Instability of a Coronal Loop. *E. G. Zaidman & T. Tajima.* 338, 1139, 47-F9 (1989)

ZAJTSEVA, G. V. The Rotation Period and Inclination Angle of T Tauri. *W. Herbst, J. F. Booth, P. F. Chugainov, G. V. Zajtseva, W. Barksdale, E. Covino, L. Terranegra, A. Vittone, & F. Vrba.* 310, L71, 145-A13 (1986)

ZAK, D. S. Further Evidence for Rotational Modulation of the Light from T Tauri Stars. *F. J. Vrba, A. E. Rydgren, P. F. Chugainov, N. I. Shakovskaya, & D. S. Zak.* 306, 199, 83-D10 (1986)

ZALCIK, MARK. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

ZAMIR, RAN. Dynamical Friction in Binary Systems. *Jacob D. Bekenstein & Ran Zamir.* 359, 427, 141-C13 (1990)

ZAMORANI, G. X-Ray Observations of the Bright Quasar Survey. *H. Tananbaum, Y. Avni, Richard F. Green, Maarten Schmidt, & G. Zamorani.* 305, 57, 67-E7 (1986)

X-Ray Studies of Quasars with the *Einstein Observatory*. IV. X-Ray Dependence on Radio Emission. *D. M. Worrall, P. Giommi, H. Tananbaum, & G. Zamorani.* 313, 596, 23-C9 (1987)

ZAMORANI, GIOVANNI. X-Ray Background, Discrete Sources, and Diffuse Processes. *Riccardo Giacconi & Giovanni Zamorani.* 313, 20, 15-B12 (1987)

The X-Ray Spectra of the Extragalactic Sources in the *Einstein* Extended Medium-Sensitivity Survey. *Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, Giovanni Zamorani, & John T. Stocke.* 326, 680, 41-B3 (1988)

ZAPPALA, R. A. Mass Flows and the Ionization State of Coronal Loops. *G. Noci, D. Spadaro, R. A. Zappala, & S. K. Antiochos.* 338, 1131, 47-F1 (1989)

Mass Flows and the Ionization States of Coronal Loops: Erratum. *G. Noci, D. Spadaro, R. A. Zappala, & S. K. Antiochos.* 349, 678, 23-F5 (1990) (Orig. paper in 338, 1131, 47-F1 (1989))

The Effect of Nonequilibrium Ionization on Ultraviolet Line Shifts in the Solar Transition Region. *D. Spadaro, G. Noci, R. A. Zappalà, & S. K. Antiochos.* 355, 342, 91-B5 (1990)

The Effects of Nonequilibrium Ionization on the Radiative Losses of the Solar Corona. *D. Spadaro, R. A. Zappalà, S. K. Antiochos, G. Lanzafame, & G. Noci.* 362, 370, 173-F9 (1990)

ZARITSKY, DENNIS. Evidence for Nonaxisymmetric Nuclear Bulges in Spiral Galaxies. *Dennis Zaritsky & K. Y. Lo.* 303, 66, 41-F6 (1986)

Velocities of Stars in Remote Galactic Satellites and the Mass of the Galaxy. *Dennis Zaritsky, Edward W. Olszewski, Robert A. Schommer, Ruth C. Peterson, & Marc Aaronson.* 345, 759, 160-B8 (1989)

ZARRO, D. M. The Dependence of He I λ10830 Absorption Strength upon X-Ray Emission in Late-Type Stars. *D. M. Zarro & H. Zirin.* 304, 365, 57-G10 (1986)

ZARRO, DOMINIC M. Explosive Plasma Flows in a Solar Flare. *Dominic M. Zarro, Richard C. Canfield, Keith T. Strong, & Thomas R. Metcalf.* 324, 582, 7-E12 (1988)

Conduction-driven Chromospheric Evaporation in a Solar Flare. *Dominic M. Zarro & James R. Lemen.* 329, 456, 80-B3 (1988)

Impulsive Phase Soft X-Ray Blueshifts at a Loop Footpoint. *Dominic M. Zarro, Gregory L. Slater, & Samuel L. Freeland.* 333, L99, 152-G2 (1988)

Hα Redshifts as a Diagnostic of Solar Flare Heating. *Dominic M. Zarro & Richard C. Canfield.* 338, L33, 40-E6 (1989)

Momentum Balance in Four Solar Flares. *Richard C. Canfield, Dominic M. Zarro, Thomas R. Metcalf, & James R. Lemen.* 348, 333, 5-B7 (1990)

ZAVATTI, F. Deconvolution of Elliptical Nuclei of Galaxies: Application to M81. *O. Bendinelli, G. Parmeggiani, & F. Zavatti.* 308, 611, 115-E14 (1986)

Deconvolution of Elliptical Nuclei of Galaxies: Application to M81: Erratum. *O. Bendinelli, G. Parmeggiani, & F. Zavatti.* 315, 408, 44-C14 (1987) (Orig. paper in 308, 611, 115-E14 (1986))

ZDZIARSKI, ANDRZEJ A. Monte Carlo Spectra from Pair-Equilibrium, Weakly Magnetized Thermal Plasmas. *Andrzej A. Zdziarski.* 303, 94, 42-A11 (1986)

On the Origin of the Infrared and X-Ray Continua of Active Galactic Nuclei. *Andrzej A. Zdziarski.* 305, 45, 67-D9 (1986)

Gamma-Ray Burst Spectra from Photon-deficient Compton Scattering by Nonthermal Electrons. *Andrzej A. Zdziarski & Don Q. Lamb.* 309, L79, 131-E4 (1986)

Effects of Electron-Positron Pair Opacity for Spherical Accretion onto Black Holes. *Alan P. Lightman, Andrzej A. Zdziarski, & Martin J. Rees.* 315, L113, 49-D8 (1987)

Pair Production and Compton Scattering in Compact Sources and Comparison to Observations of Active Galactic Nuclei. *Alan P. Lightman & Andrzej A. Zdziarski.* 319, 643, 102-A7 (1987)

Compton Reflection of Gamma Rays by Cold Electrons. *Timothy R. White, Alan P. Lightman, & Andrzej A. Zdziarski.* 331, 939, 119-C8 (1988)

Saturated Pair-Photon Cascades on Isotropic Background Photons. *Andrzej A. Zdziarski.* 335, 786, 181-C6 (1988)

Gamma Rays from Relativistic Electrons Undergoing Compton Losses in Isotropic Photon Fields. *Andrzej A. Zdziarski.* 342, 1108, 115-G4 (1989)

Saturated Pair-Photon Cascades on Isotropic Background Photons: Erratum. *Andrzej A. Zdziarski.* 342, 1212, 117-A6 (1989) (Orig. paper in 335, 786, 181-C6 (1988))

Absorption of Gamma Rays and Gamma Rays at Cosmological Redshifts. *Andrzej A. Zdziarski & Roland Svensson.* 344, 551, 141-D4 (1989)

Photon-Photon Scattering of Gamma Rays at Cosmological Distances. *Roland Svensson & Andrzej A. Zdziarski.* 349, 415, 20-D5 (1990)

Physical Processes in Photon-starved Nonthermal Pair Plasmas. *Andrzej A. Zdziarski, Paolo S. Coppi, & Don Q. Lamb.* 357, 149, 113-A1 (1990)

The Optical Depth of the Universe at Radiation-dominated Epochs. *Biman B. Nath & Andrzej A. Zdziarski.* 362, 25, 169-D1 (1990)

Electron-Positron Pairs, Compton Reflection, and the X-Ray Spectra of Active Galactic Nuclei. *Andrzej A. Zdziarski, Gabriele Ghisellini, Ian M. George, Roland Svensson, A. C. Fabian, & Chris Done.* 363, L1, 187-A5 (1990)

ZEALEY, WILLIAM J. High Spectral Resolution Observations of the $H_2$2.12 Micron Line in Herbig-Haro Objects. *Hans Zinnecker, Reinhard Mundt, T. R. Geballe, & William J. Zealey.* 342, 337, 105-A7 (1989)

ZEHETHOFER, JOHN. Optical Flashes in Perseus. *Bill Katz, Dan Driscoll, Kai Millyard, Bruce Waters, Mark Zalcik, Joe Adair, Andreas Gada, Wayne Hayes, Richard Kelsch, Richard McWatters, Richard Rokosz, John Zehethofer, Alex Fullerton, Ron Lyons, & Marshall McCall.* 307, L33, 100-C9 (1986)

ZEILIK, M. An Analysis of the Light Curves of Short-Period RS Canum Venaticorum Stars: Starspots and Fundamental Properties. *E. Budding & M. Zeilik.* 319, 827, 104-A12 (1987)

Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. II. RT Andromedae. *M. Zeilik, D. A. Cox, C. De Blasi, M. Rhodes, & E. Budding.* 345, 991, 162-G5 (1989)

Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. III. BH Virginis. *M. Zeilik, M. Ledlow, M. Rhodes, M. J. Arévalo, & E. Budding.* 354, 352, 78-D8 (1990)

Long-Term Starspot Activity of Short-Period RS Canum Venaticorum Stars. IV. WY Cancri. *M. Zeilik, D. A. Cox, M. J. Ledlow, M. Rhodes, P. A. Heckert, & E. Budding.* 363, 647, 192-B11 (1990)

ZEILIK, MICHAEL. A Half-Century of Starspot Activity on SV Camelopardalis. *Michael Zeilik, Cecilia De Blasi, Michael Rhodes, & Edwin Budding.* 332, 293, 126-D1 (1988)

Spectral Decomposition and Multiple Periodicities in the Photometric Light Curves of RS CVn Stars. *Eric R. Nelson & Michael Zeilik.* 349, 163, 16-A1 (1990)

ZEILINGER, WERNER W. Evidence for a Triaxial Bulge in the Spiral Galaxy NGC 4845. *Francesco Bertola, Vera C. Rubin, & Werner W. Zeilinger.* 345, L29, 157-C7 (1989)

ZENCHENKO, V. M. Constraints on Neutron Star Models of Gamma-Burst Sources from the *Einstein Observatory*. *G. Pizzichini, M. Gottardi, J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, J. G. Laros, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, T. L. Cline, U. D. Desai, V. G. Kurt, A. V. Kuznetsov, & V. M. Zenchenko.* 301, 641, 22-F1 (1986)

A Second Catalog of Gamma-Ray Bursts: 1978–1980 Localizations from the Interplanetary Network. *J.-L. Atteia, C. Barat, K. Hurley, M. Niel, G. Vedrenne, W. D. Evans, E. E. Fenimore, R. W. Klebesadel, J. G. Laros, T. Cline, U. Desai, B. Teegarden, I. V. Estulin, V. M. Zenchenko, A. V. Kusnetsov, & V. G. Kurt.* 64, 305, 20-B1 (1987)

ZENSUS, J. A. Evolution of 3C 273 at 10.7 GHz. *M. H. Cohen, J. A. Zensus, J. A. Biretta, G. Comoretto, P. Kaufmann, & Z. Abraham.* 315, L89, 49-B11 (1987)

Superluminal Motion in the Quasar 3C 279. *S. C. Unwin, M. H. Cohen, J. A. Biretta, M. W. Hodges, & J. A. Zensus.* 340, 117, 68-E6 (1989)

ZENSUS, J. ANTON. Expanding Quasars and the Expansion of the Universe. *Marshall H. Cohen, Peter D. Barthel, Timothy J. Pearson, & J. Anton Zensus.* 329, 1, 75-A9 (1988)

ZEPF, STEPHEN E. Close Pairs of Galaxies in Deep Sky Surveys. *Stephen E. Zepf & David C. Koo.* 337, 34, 17-D6 (1989)

ZHAN, YIN. A Two-Component Dark Matter Universe. II. Linear Fluctuation Theory. *Satoru Ikeuchi, Colin Norman, & Yin Zhan.* 324, 35, 1-C13 (1988)

Gravitational Clustering of Galaxies: The Probability Distribution Function. *Yin Zhan.* 340, 23, 67-C4 (1989)

An Integral Constraint on the N-Point Correlation Function of Galaxies. *Yin Zhan & Charles C. Dyer.* 343, 107, 119-D11 (1989)
The Mass Function of Galaxy Clusters. *Yin Zhan.* 355, 387, 93-C1 (1990)
ZHANG, E.-H. On the Discordant Measurements of the Radial Velocity Curve of the Late-Type Star in the Dwarf Nova SS Cygni. *Edward L. Robinson, E.-H. Zhang, & Richard J. Stover.* 305, 732, 77-A1 (1986)
The Eclipses of Cataclysmic Variables. I. HT Cassiopeiae. *E.-H. Zhang, Edward L. Robinson, & R. Edward Nather.* 305, 740, 77-A9 (1986)
The Eclipses of Cataclysmic Variables. II. U Geminorum. *E.-H. Zhang & Edward L. Robinson.* 321, 813, 133-D8 (1987)
Photometric and Spectroscopic Observations of the Eclipsing Nova-like Variable PG 1030+590 (DW Ursae Majoris). *A. W. Shafter, F. V. Hessman, & E.-H. Zhang.* 327, 248, 49-F10 (1988)
ZHANG, HONG-LIN. Collision Rates for Excitation of Helium-like Ions with Inclusion of Resonance Effects. *Hong-Lin Zhang & Douglas H. Sampson.* 63, 487, 8-D5 (1987)
Semiempirical Formulae for Electron Impact Excitation and Ionization of Hydrogenic Ions. *Douglas H. Sampson & Hong-Lin Zhang.* 335, 516, 176-E7 (1988)
ZHANG, HONGQI. Seventy-Five Hours of Coordinated Videomagnetograph Observations. *Haimin Wang, Harold Zirin, Alan Patterson, Guoxiang Ai, & Hongqi Zhang.* 343, 489, 124-B1 (1989)
ZHANG, JIA-LU. Apparent Velocities of Sources Moving in the Gravitational Field of a Kerr Black Hole. *Shou-ping Xiang, Tao Kiang, & Jia-lu Zhang.* 330, 168, 91-G7 (1988)
The Three-Point Correlation Functions of Abell Clusters. *Yi-peng Jing & Jia-lu Zhang.* 342, 639, 110-E1 (1989)
ZHANG, W. Search for Neutrino Events in the Kamiokande II Detector in Correlation with the Solar Flare Activity in 1989 March. *K. S. Hirata, T. Kajita, T. Kifune, K. Kihara, M. Nakahata, K. Nakamura, S. Ohara, N. Sato, Y. Suzuki, Y. Totsuka, Y. Yaginuma, M. Mori, Y. Oyama, A. Suzuki, K. Takahashi, H. Takei, T. Tanimori, M. Koshiba, T. Suda, T. Tajima, K. Miyano, H. Miyata, M. Yamada, Y. Fukuda, K. Kaneyuki, Y. Nagashima, M. Takita, E. W. Beier, L. R. Feldscher, E. D. Frank, W. Frati, S. B. Kim, A. K. Mann, F. M. Newcomer, R. Van Berg, & W. Zhang.* 359, 574, 143-B6 (1990)
ZHANG, XIZHEN. Radio Observation of the Supernova Remnant HB 9 at 232 MHz. *Zhiqiang Shen, Xinji Wu, Xizhen Zhang, Yijia Zheng, Zong-wei Li, & D. A. Leahy.* 356, 241, 102-B1 (1990)
ZHAO, JUN-HUI. Radio Studies of the Galactic Center. I. The Sagittarius A Complex. *A. Pedlar, K. R. Anantharamaiah, R. D. Ekers, W. M. Goss, J. H. van Gorkom, U. J. Schwarz, & Jun-hui Zhao.* 342, 769, 112-A1 (1989)
ZHAO, W. R. ^{88}Sr and ^{89}Y: The s-Process at Magic Neutron Number $N = 50$. *F. Käppeler, W. R. Zhao, H. Beer, & U. Ratzel.* 355, 348, 91-B12 (1990)
ZHENG, W. Variation in Hydrogen Emission Lines of the QSO PKS 0736+017. *W. Zheng & E. M. Burbidge.* 306, L67, 93-G1 (1986)
ZHENG, WEI. Emission-Line Variability and the Broad-Line Region of Quasi-stellar Objects. I. Time Scales and Photon Densities. *Wei Zheng, E. Margaret Burbidge, Harding E. Smith, Ross D. Cohen, & Steven E. Bradley.* 322, 164, 139-F5 (1987)
Line Variability and the Broad Emission Line Region of Quasi-stellar Objects. II. Changes in Balmer Decrements. *Wei Zheng.* 324, 801, 12-B8 (1988)
An Unusual Broad Line Profile in the QSO 0054+144: Evidence for an Optical Jet? *Wei Zheng & E. Margaret Burbidge.* 328, 175, 63-G11 (1988)
Line Variability and the Broad Emission Line Region of Quasi-stellar Objects. III. Line Profiles and Velocity Field. *Wei Zheng.* 333, 188, 140-B1 (1988)
Ionization by Line Photons and Its Effect on Hydrogen Line Ratios. *Wei Zheng.* 337, 617, 26-F9 (1989)
Relation between the Ionizing Continuum and the Emission Lines in Fairall 9. *Luc Binette, Almudena Prieto, Ewa Szuszkiewicz, & Wei Zheng.* 343, 135, 119-G3 (1989)
Internal Redshift Difference and Central Mass in QSOs. *Wei Zheng & Jack W. Sulentic.* 350, 512, 32-E13 (1990)
The Strength of Optical Fe II Emission in Quasi-stellar Objects. *Wei Zheng & Paul T. O'Brien.* 353, 433, 69-D4 (1990)
Implications of Arp 102B: Line Emission from an Accretion Disk? *Jack W. Sulentic, Massimo Calvani, Paolo Marziani, & Wei Zheng.* 355, L15, 92-B11 (1990)
Differential Line Development and the Complex Structure of the Broad-Line Region in Fairall 9. *Wei Zheng & Paul T. O'Brien.* 356, 463, 106-A12 (1990)
Emission-Line Ratios at High Densities. *Wei Zheng & R. C. Puetter.* 361, 40, 157-E1 (1990)
A Double-Stream Model for Line Profiles. *Wei Zheng, Luc Binette, & Jack W. Sulentic.* 365, 115, 207-D11 (1990)
ZHENG, YIJIA. Radio Observation of the Supernova Remnant HB 9 at 232 MHz. *Zhiqiang Shen, Xinji Wu, Xizhen Zhang, Yijia Zheng, Zong-wei Li, & D. A. Leahy.* 356, 241, 102-B1 (1990)
ZHOU, B. Limits on the Antiproton/Proton Ratio in the Cosmic Radiation from 100 MeV to 1580 MeV. *M. H. Salamon, S. McKee, J. A. Musser, G. Tarlé, A. Tomasch, C. R. Bower, R. M. Heinz, J. L. Miller, S. L. Mufson, S. W. Barwick, G. Gerbier, D. M. Lowder, P. B. Price, B. Zhou, J. J. Beatty, & S. P. Ahlen.* 349, 78, 15-A1 (1990)
ZHOU, DAO-QI. An Explanation of Light-Curve Asymmetries in Contact Binaries by Means of the Coriolis Effect. *Dao-Qi Zhou & Kam-Ching Leung.* 355, 271, 90-C1 (1990)
ZHOU, G. C. The Synchrotron-Maser Theory of Type II Solar Radio Emission Processes: The Physical Model and Generation Mechanism. *C. S. Wu, R. S. Steinolfson, & G. C. Zhou.* 309, 392, 124-B11 (1986)
ZHOU, SHUDONG. CO Observations of L1582. *Shudong Zhou, Harold M. Butner, & Neal J. Evans II.* 333, 809, 149-B9 (1988)
A CS Survey of Low-Mass Cores and Comparison with NH_3 Observations. *Shudong Zhou, Yuefang Wu, Neal J. Evans II, Gary A. Fuller, & Philip C. Myers.* 346, 168, 168-B11 (1989)
An NH_3 Ring around the Infrared Sources in NGC 2071. *Shudong Zhou, Neal J. Evans II, & Lee G. Mundy.* 355, 159, 88-G12 (1990)
Testing Star Formation Theories: VLA Observations of H_2CO in the Bok Globule B335. *Shudong Zhou, Neal J. Evans II, Harold M. Butner, Marc L. Kutner, Chun Ming Leung, & Lee G. Mundy.* 363, 168, 184-C1 (1990)
ZHOU, YOU-YUAN. The Distribution of Quasars on the Large Scale and the Super Large Scale. *You-yuan Zhou, Dong-ping Fang, Zu-gan Deng, & Xiang-tao He.* 311, 578, 154-B11 (1986)
ZIEGLER, HARALD J. Collisionless Relaxation of Self-gravitating Systems with Spherically Symmetric Dynamics. *Harald J. Ziegler & Heinz Wiechen.* 362, 595, 178-B8 (1990)
ZIMMERMAN, R. L. Inhomogeneous Cosmology. III. Primordial Gravitational Waves and Dust. *P. J. Adams, R. W. Hellings, & R. L. Zimmerman.* 318, 1, 79-A5 (1987)
ZIMMERMANN, H. U. Characteristics of Old Neutron Stars in Dense Interstellar Clouds. *H. Böhringer, G. E. Morfill, & H. U. Zimmermann.* 313, 218, 17-D1 (1987)
ZIMMERMANN, MARK E. Giant and Supergiant Stars with Degenerate Neutron Cores. *Chris Eich, Mark E. Zimmermann, Kip S. Thorne, & Anna N. Zytkow.* 346, 277, 169-E7 (1989)
ZINK, L. R. Laboratory Measurement of the Rotational Spectrum of the OH Radical with Tunable Far-Infrared Radiation. *J. M. Brown, L. R. Zink, D. A. Jennings, K. M. Evenson, A. Hinz, & I. G. Nolt.* 307, 410, 99-E6 (1986)
Frequency Measurement of the $J = 1 \leftarrow 0$ Rotational Transition of HD. *K. M. Evenson, D. A. Jennings, J. M. Brown, L. R. Zink, K. R. Leopold, M. D. Vanek, & I. G. Nolt.* 330, L135, 105-B5 (1988)
Laboratory Measurements for the Astrophysical Identification of MgH. *L. R. Zink, D. A. Jennings, K. M. Evenson, & K. R. Leopold.* 359, L65, 144-D1 (1990)
ZINN, ROBERT. The Globular Cluster System of the Galaxy. IV. The Halo and Disk Subsystems: Erratum. *Robert Zinn.* 304, 579, 60-B14 (1986) (Orig. paper in 293, 424, 63-B7 (1985))
The Horizontal-Branch Stars in Globular Clusters. I. The Period-Shift Effect, the Luminosity of the Horizontal Branch, and the Age-Metallicity Relation. *Young-Wook Lee, Pierre Demarque, & Robert Zinn.* 350, 155, 27-A9 (1990)
ZINNECKER, H. Observations of CO Isotopic Emission and the Far-Infrared Continuum of Centaurus A. *A. Eckart, M. Cameron, H. Rothermel, W. Wild, H. Zinnecker, G. Rydbeck, M. Olberg, & T. Wiklind.* 363, 451, 189-F11 (1990)

ZINNECKER, HANS. High Spectral Resolution Observations of the $H_2$2.12 Micron Line in Herbig-Haro Objects. *Hans Zinnecker, Reinhard Mundt, T. R. Geballe, & William J. Zealey.* 342, 337, 105-A7 (1989)

ZINNER, E. K. ^{16}O Excesses in Murchison and Murray Hibonites: A Case against a Late Supernova Injection Origin of Isotopic Anomalies in O, Mg, Ca, and Ti. *A. J. Fahey, J. N. Goswami, K. D. McKeegan, & E. K. Zinner.* 323, L91, 158-G5 (1987)

ZINNER, ERNST K. Large ^{48}Ca Anomalies Are Associated with ^{50}Ti Anomalies in Murchison and Murray Hibonites. *Ernst K. Zinner, Albert J. Fahey, Jitendra N. Goswami, Trevor R. Ireland, & Kevin D. McKeegan.* 311, L103, 160-G1 (1986)

ZIPOY, D. M. Numerical Hydrodynamic Models of Planetary Nebulae. *M. Bobrowsky & D. M. Zipoy.* 347, 307, 185-G8 (1989)

ZIRIN, H. Magnetic Shear. III. Hale Region 17255. *R. Grant Athay, H. P. Jones, & H. Zirin.* 303, 877, 52-B5 (1986)

Magnetic Shear. IV. Hale Regions 16740, 16815, and 16850. *R. Grant Athay, J. A. Klimchuk, H. P. Jones, & H. Zirin.* 303, 884, 52-C6 (1986)

The Dependence of He I λ10830 Absorption Strength upon X-Ray Emission in Late-Type Stars. *D. M. Zarro & H. Zirin.* 304, 365, 57-G10 (1986)

Properties of Intermediate-Degree Solar Oscillation Modes. *Ken G. Libbrecht & H. Zirin.* 308, 413, 112-E3 (1986)

On the Relation between Photospheric Flow Fields and the Magnetic Field Distribution on the Solar Surface. *George W. Simon, A. M. Title, K. P. Topka, T. D. Tarbell, R. A. Shine, S. H. Ferguson, H. Zirin, & The SOUP Team.* 327, 964, 59-C1 (1988)

Filament Eruptions and the Impulsive Phase of Solar Flares. *S. W. Kahler, R. L. Moore, S. R. Kane, & H. Zirin.* 328, 824, 72-B7 (1988)

ZIRIN, HAROLD. Microwave Structure of the Quiet Sun. *Dale E. Gary & Harold Zirin.* 329, 991, 88-A1 (1988)

The Vertical Structure of Arch Filament Systems in Solar Emerging Flux Regions. *Dean-Yi Chou & Harold Zirin.* 333, 420, 142-F3 (1988)

Observations of the 12 Micron Mg I Lines in Various Solar Features. *Harold Zirin & Bruce Popp.* 340, 571, 74-C9 (1989)

Seventy-Five Hours of Coordinated Videomagnetograph Observations. *Haimin Wang, Harold Zirin, Alan Patterson, Guoxiang Ai, & Hongqi Zhang.* 343, 489, 124-B1 (1989)

Microwave Structure of the Quiet Sun at 8.5 GHz. *Dale E. Gary, Harold Zirin, & Haimin Wang.* 355, 321, 90-G6 (1990)

Optical Properties of Impulsive Flares. *Harold Zirin & Frances Tang.* 73, 111, 19-B1 (1990)

ZIURYS, L. M. Detection of Interstellar Vibrationally Excited HCN. *L. M. Ziurys & B. E. Turner.* 300, L19, 7-B10 (1986)

$HCNH^+$: A New Interstellar Molecular Ion. *L. M. Ziurys & B. E. Turner.* 302, L31, 35-C4 (1986)

Observations of SiO toward OMC-1: A New Outflow Source 1.5 South of Orion-KL? *L. M. Ziurys & P. Friberg.* 314, L49, 39-B12 (1987)

Detection of Interstellar PN: The First Phosphorus-bearing Species Observed in Molecular Clouds. *L. M. Ziurys.* 321, L81, 130-A2 (1987)

SiS in Orion-KL: Evidence for "Outflow" Chemistry. *L. M. Ziurys.* 324, 544, 7-C1 (1988)

HCO Emission from H II–Molecular Cloud Interface Regions. *M. S. Schenewerk, L. E. Snyder, J. M. Hollis, P. R. Jewell, & L. M. Ziurys.* 328, 785, 71-F1 (1988)

Observations of Interstellar $HOCO^+$: Abundance Enhancements toward the Galactic Center. *Y. C. Minh, W. M. Irvine, & L. M. Ziurys.* 334, 175, 156-C1 (1988)

Identification of the Interstellar Cyanomethyl Radical (CH_2CN) in the Molecular Clouds TMC-1 and Sagittarius B2. *W. M. Irvine, P. Friberg, Å. Hjalmarson, S. Ishikawa, N. Kaifu, K. Kawaguchi, S. C. Madden, H. E. Matthews, M. Ohishi, S. Saito, H. Suzuki, P. Thaddeus, B. E. Turner, S. Yamamoto, & L. M. Ziurys.* 334, L107, 169-F5 (1988)

Laboratory Detection of a New Interstellar Free Radical $CH_2CN(^2B_1)$. *Shuji Saito, Satoshi Yamamoto, W. M. Irvine, L. M. Ziurys, Hiroko Suzuki, Masatoshi Ohishi, & Norio Kaifu.* 334, L113, 169-F10 (1988)

Shock Chemistry in the Molecular Clouds Associated with SNR IC 443. *L. M. Ziurys, Ronald L. Snell, & R. L. Dickman.* 341, 857, 95-G1 (1989)

Interstellar SiO as a Tracer of High-Temperature Chemistry. *L. M. Ziurys, P. Friberg, & W. M. Irvine.* 343, 201, 120-F5 (1989)

Detection of Interstellar Hydrogen Sulfide in Cold, Dark Clouds. *Y. C. Minh, W. M. Irvine, & L. M. Ziurys.* 345, L63, 157-F5 (1989)

A New Bipolar Outflow Source in OMC-1. *L. M. Ziurys, T. L. Wilson, & R. Mauersberger.* 356, L25, 103-D5 (1990)

Detection of Nitric Oxide in the Dark Cloud L134N. *D. McGonagle, L. M. Ziurys, W. M. Irvine, & Y. C. Minh.* 359, 121, 135-E5 (1990)

Observations of H_2S toward OMC-1. *Y. C. Minh, L. M. Ziurys, W. M. Irvine, & D. McGonagle.* 360, 136, 146-F9 (1990)

ZMUIDZINAS, J. Observations of Neutral Atomic Carbon at 809 GHz. *J. Zmuidzinas, A. L. Betz, & D. M. Goldhaber.* 307, L75, 107-D11 (1986)

Heterodyne Spectroscopy of the 158 Micron C II Line in M42. *R. T. Boreiko, A. L. Betz, & J. Zmuidzinas.* 325, L47, 31-D9 (1988)

Neutral Atomic Carbon in Dense Molecular Clouds. *J. Zmuidzinas, A. L. Betz, R. T. Boreiko, & D. M. Goldhaber.* 335, 774, 181-B8 (1988)

Heterodyne Spectroscopy of the J=17–16 CO Line in Orion. *R. T. Boreiko, A. L. Betz, & J. Zmuidzinas.* 337, 332, 21-D11 (1989)

Ionized Carbon in Side-illuminated Molecular Clouds. *R. T. Boreiko, A. L. Betz, & J. Zmuidzinas.* 353, 181, 64-D1 (1990)

Analysis of Zeeman Effect Data in Radio Astronomy. *R. J. Sault, N. E. B. Killeen, J. Zmuidzinas, & R. Loushin.* 74, 437, 36-D5 (1990)

ZOONEMATKERMANI, S. A 20 Centimeter Survey of Compact Sources in the Northern Galactic Plane. *R. H. Becker, R. L. White, B. J. McLean, D. J. Helfand, & S. Zoonematkermani.* 358, 485, 129-E10 (1990)

A Catalog of Small-Diameter Radio Sources in the Galactic Plane. *S. Zoonematkermani, D. J. Helfand, R. H. Becker, R. L. White, & R. A. Perley.* 74, 181, 32-E11 (1990)

ZOONEMATKERMANI, SAEID. Detection of a Dozen X-Ray–emitting Main-Sequence B6–A3 Stars in Orion. *Jean-Pierre Caillault & Saeid Zoonematkermani.* 338, L57, 49-C1 (1989)

ZUCCONI, JEAN-MARC. The $^{12}C/^{13}C$ Abundance Ratio in Comet Halley. *Susan Wyckoff, Eric Lindholm, Peter A. Wehinger, Bruce A. Peterson, Jean-Marc Zucconi, & Michel C. Festou.* 339, 488, 56-A6 (1989)

ZUCKERMAN, B. Origin of Planetary Nebulae: Morphology, Carbon-to-Oxygen Abundance Ratios, and Central Star Multiplicity. *B. Zuckerman & Lawrence H. Aller.* 301, 772, 24-A10 (1986)

Carbon Monoxide Emission from Stars in the *IRAS* and Revised AFGL Catalogs. I. Mass Loss Driven by Radiation Pressure on Dust Grains. *B. Zuckerman & H. M. Dyck.* 304, 394, 58-B11 (1986)

Carbon Monoxide Emission from Stars in the *IRAS* and Revised AFGL Catalogs. II. Massive Carbon Stars. *B. Zuckerman, H. M. Dyck, & M. J. Claussen.* 304, 401, 58-C4 (1986)

Small-Scale Structure of the Circumstellar Gas of HL Tauri and R Monocerotis. *S. Beckwith, A. I. Sargent, N. Z. Scoville, C. R. Masson, B. Zuckerman, & T. G. Phillips.* 309, 755, 129-E3 (1986)

Dust Grains and Gas in the Circumstellar Envelopes around Luminous Red-Giant Stars. *B. Zuckerman & H. M. Dyck.* 311, 345, 149-G11 (1986)

A Search for Brown Dwarfs and Late M Dwarfs in the Hyades and the Pleiades. *B. Zuckerman & E. E. Becklin.* 319, L99, 107-F9 (1987)

Structure of a Possible Circumbinary Disk around T Tauri. *D. A. Weintraub, C. R. Masson, & B. Zuckerman.* 320, 336, 111-F9 (1987)

Molecular Hydrogen Maps of Extended Planetary Nebulae: The Dumbell, the Ring, and NGC 2346. *B. Zuckerman & Ian Gatley.* 324, 501, 6-F6 (1988)

Infrared Spectroscopy, Imaging, and 10 Micron Photometry of Giclas 29-38. *A. T. Tokunaga, K.-W. Hodapp, E. E. Becklin, D. P. Cruikshank, M. Rigler, D. Toomey, R. H. Brown, & B. Zuckerman.* 332, L71, 137-D1 (1988)

Measurements of Keplerian Rotation of the Gas in the Circumbinary Disk around T Tauri. *David A. Weintraub, C. R. Masson, & B. Zuckerman.* 344, 915, 145-D13 (1989)

Molecules in NGC 6781 and Other Ringlike Planetary Nebulae. *B. Zuckerman, J. H. Kastner, Bruce Balick, & Ian Gatley.* 356, L59, 110-C10 (1990)

The Infrared Spectrum of G29–38. *A. T. Tokunaga, E. E. Becklin, & B. Zuckerman.* 358, L21, 127-C6 (1990)

ZUKOWSKI, EDWIN L. H. The "Jet" Rotation Measure Distribution and the Optical Absorption System near the $z = 1.953$ Quasar 3C 191. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 355, L31, 98-C1 (1990)

ZUREK, W. H. Redistribution of Angular Momentum by Nonaxisymmetric Instabilities in a Thick Accretion Disk. *W. H. Zurek & W. Benz.* 308, 123, 109-D5 (1986)

Richness Distribution of String-seeded Abell Clusters: Accretion by a Loop versus Hierarchical Clustering. *W. H. Zurek.* 324, 19, 1-B11 (1988)

Positron Annihilation Radiation from the Galactic Center: "Cheshire Cat" Compton Scattering and the Origin of Excess Continuum. *Lars Bildsten & W. H. Zurek.* 329, 212, 77-D1 (1988)

Halos in Open and Closed Universes: Differentiated Merging and Natural Selection of Galaxy Types. *W. H. Zurek, P. J. Quinn, & J. K. Salmon.* 330, 519, 98-C1 (1988)

The Angular Momentum Distribution in Galactic Halos. *P. J. Quinn & W. H. Zurek.* 331, 1, 106-A9 (1988)

Can a Thick Accretion Disk Lose Its Angular Momentum to Gravitational Radiation? *W. H. Zurek & Krzysztof M. Górski.* 347, L17, 189-C5 (1989)

ZWAAN, C. Relations between the Photospheric Magnetic Field and the Emission from the Outer Atmospheres of Cool Stars. I. The Solar Ca II K Line Core Emission. *C. J. Schrijver, J. Coté, C. Zwaan, & S. H. Saar.* 337, 964, 30-F12 (1989)

ZWEIBEL, E. G. Oscillation Spectra of Neutron Stars with Strong Magnetic Fields. *B. W. Carroll, E. G. Zweibel, C. J. Hansen, P. N. McDermott, M. P. Savedoff, J. H. Thomas, & H. M. Van Horn.* 305, 767, 77-C9 (1986)

ZWEIBEL, ELLEN G. Effects of Fibril Magnetic Fields on Solar *p*-Modes. II. Calculation of Mode Frequency Shifts. *Ellen G. Zweibel & Thomas J. Bogdan.* 308, 401, 112-D5 (1986)

The Formation of Current Sheets in the Solar Atmosphere. *Ellen G. Zweibel & He-Sheng Li.* 312, 423, 5-D9 (1987)

Propagation of Compressive Waves through Fibril Magnetic Fields. *T. J. Bogdan & Ellen G. Zweibel.* 312, 444, 5-F10 (1987)

The Structure and Dissipation of Forced Current Sheets in the Solar Atmosphere. *Tzihong Chiueh & Ellen G. Zweibel.* 317, 900, 76-A7 (1987)

The Scattering of Alfvén Waves by Density Fluctuations. *He-Sheng Li & Ellen G. Zweibel.* 322, 248, 140-E8 (1987)

Ambipolar Diffusion Drifts and Dynamos in Turbulent Gas. *Ellen G. Zweibel.* 329, 384, 79-C10 (1988)

The Growth of Magnetic Fields Prior to Galaxy Formation. *Ellen G. Zweibel.* 329, L1, 81-A4 (1988)

Hydromagnetic Wave Heating of the Low-Density Interstellar Medium. *Katia M. Ferrière, Ellen G. Zweibel, & J. Michael Shull.* 332, 984, 135-C5 (1988)

Magnetohydrodynamic Waves and Particle Acceleration in a Coronal Loop. *Jean-François de La Beaujardière & Ellen G. Zweibel.* 336, 1059, 15-E10 (1989)

Stability of Stressed Current Tubes and Energy Storage in the Solar Corona. *Tzihong Chiueh & Ellen G. Zweibel.* 338, 1158, 48-A1 (1989)

Magnetic Reconnection in Partially Ionized Gases. *Ellen G. Zweibel.* 340, 550, 74-A12 (1989)

Effects of Magnetic Fibrils on Solar Oscillation Frequencies: Mean Field Theory. *Ellen G. Zweibel & Werner Däppen.* 343, 994, 131-D2 (1989)

Virial Theorem Analysis of the Structure and Stability of Magnetized Clouds. *Ellen G. Zweibel.* 348, 186, 3-C9 (1990)

Magnetic Field Line Tangling and Polarization Measurements in Clumpy Molecular Gas. *Ellen G. Zweibel.* 362, 545, 177-E1 (1990)

ZYCH, ALLEN. A Search for Gamma Rays of 1.5–20.0 MeV from Centaurus A. *Terrence O'Neill, O. Tumay Tumer, Allen Zych, & R. Stephen White.* 339, 78, 51-A2 (1989)

ZYGELMAN, B. The Radiative Association of He^+ and H. *B. Zygelman & A. Dalgarno.* 365, 239, 209-B5 (1990)

ZYLSTRA, G. Vela X-1 Pulse Timing. I. Determination of the Neutron Star Orbit. *P. E. Boynton, J. E. Deeter, F. K. Lamb, & G. Zylstra.* 307, 545, 103-A1 (1986)

Apsidal Advance in Vela X-1. *J. E. Deeter, P. E. Boynton, F. K. Lamb, & G. Zylstra.* 314, 634, 36-E1 (1987)

Vela X-1 Pulse Timing. II. Variations in Pulse Frequency. *J. E. Deeter, P. E. Boynton, F. K. Lamb, & G. Zylstra.* 336, 376, 5-G7 (1989)

ZYTKOW, ANNA N. Can Comet Clouds around Neutron Stars Explain Gamma-Ray Bursts? *Scott Tremaine & Anna N. Zytkow.* 301, 155, 15-E12 (1986)

Giant and Supergiant Stars with Degenerate Neutron Cores. *Chris Eich, Mark E. Zimmermann, Kip S. Thorne, & Anna N. Zytkow.* 346, 277, 169-E7 (1989)

Are There Optical Counterparts to Gamma-Ray Bursts? *Anna N. Żytkow.* 359, 138, 135-F9 (1990)